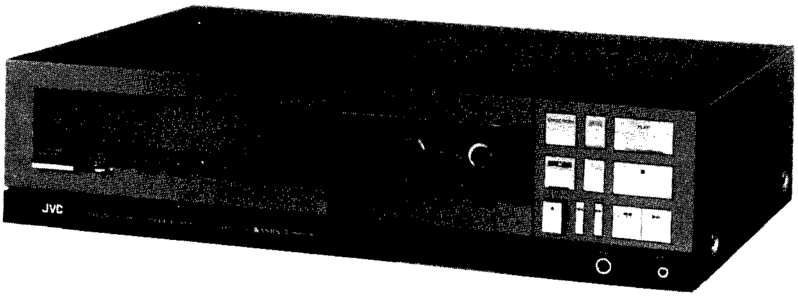
JVC

SERVICE MANUAL

MODEL

DD-V9 A/B/C/E/J/U

STEREO CASSETTE DECK



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Features

1. Flip reverse system
   - Rotary reverse system with 3-piece diecast structure which assures best positioning the head axis in both tape directions.
   - Jewel lock mechanism maintains excellent performance.
   - Quick reverse mechanism using infrared ray for a reverse time of 0.4 sec (during which sound is cut off).
2. Computer B.E.S.T. (Bias, Equalizer and Sensitivity of Tape) Tuning System
   - Extracting the optimum tape performance, setting a flat response automatically.
   - Automatic starting in timer recording.
3. Dolby B/C NR System
   - Switchable over to Dolby B NR.
   - Provided with MPX filter key.
4. 3-head system which permits simultaneous monitoring with recording
   - SA (Sen Alloy) combination head.
5. Dot matrix 2-color FL peak meter with peak hold mechanism
6. Sliding Controls
7. Full logic mechanism with pulse-servo DD (Direct Drive) motor
   - 3-motor system: FG pulse-servo DD motor for the capstan and DC motors for the reel and mechanism drives.
   - Silent mechanism.
8. SA head for recording/playback
9. 4-way digital counter
   - Tape remaining time is displayed during recording/playback in either direction.
   - Music scan mechanism permits the tunes to skip for up to 20.
     "Under license of Staar S.A., Brussels Belgium".
   - Usable as a stopwatch showing the elapsed time in recording and playback.
   - Normally used as a 4-digit tape counter with 2-point memory for the block repeat facility.
10. Microcomputer mechanical control
    - Auto record muting.
    - Index scan and blank search.
    - Mechanism mode indicators.
11. Timer start mechanism (with safety lock)
12. Remote control jack provided
13. Auto tape select mechanism

Specifications

Type : Stereo cassette deck
Track system : 4-track, 2-channel
Tape speed : 1-7/8 inch/sec (4.8 cm/sec)
Frequency response : (−20 dB recording)
Metal tape: *1
25−18,000 Hz (±3 dB)
15−20,000 Hz (DIN 45 500)
Chrome tape: *2
25−18,000 Hz (±3 dB)
15−20,000 Hz (DIN 45 500)
Normal tape: *3
25−17,000 Hz (±3 dB)
15−19,000 Hz (DIN 45 500)
(0 dB recording)
Metal tape:
25−12,500 Hz (±3 dB)
Chrome tape:
25−8,000 Hz (±3 dB)
Normal tape:
25−8,000 Hz (±3 dB)
Frequency response when using the computer B.E.S.T. tuning system
(−20 dB recording)
Metal tape:
40−12,500 Hz (±1 dB)
Chrome tape:
40−12,500 Hz (±1 dB)
Normal tape:
40−12,500 Hz (±1 dB)
Those values are almost the same for all types of tapes when the computer B.E.S.T. tuning system is used.

Note: *1........JVC ME or Equivalent (TS-7)
*2........TDK SA or Equivalent (TS-6)
*3........MAXELL UD or Equivalent (TS-5)

S/N ratio : 60 dB (S = 1 kHz, K3 = 3%
N = A-weighted, Metal tape)
The S/N is improved by about 15 dB at 500 Hz, by max. about 20 dB at 1 kHz ~ 10 kHz and 4 dB MOL at 10 kHz with DOLBY C NR on and improved by 5 dB at 1 kHz and by 10 dB at above 5 kHz with DOLBY B NR on.
Wow and flutter (Forward) : 0.03% (WRMS)
0.06% (DIN 45 500)
(with MAXELL UD tape)
Crosstalk : 65 dB (1 kHz)
Harmonic distortion : K3; 0.4%, THD; 1.0%
(Metal tape, 1 kHz 0 dB)
Channel separation : 40 dB (1 kHz)
Heads : Ferrite (for playback)
SA (for record) combination head
2-Gap ferrite head for erasing
Motors : Pulse-servo
DD motor (for Capstan) × 1
DC motor (for Reel) × 1
DC motor (for mechanical drive) × 1
Fast forward time : Approx. 90 sec. with C-60 cassette
Rewind time : Approx. 90 sec. with C-60 cassette
Input terminals :
Input jack × 2 ; Min. input level; 80 mV
Input impedance; 80 kΩ
Output terminals :
Output jack × 2 ; Output level; 0−500 mV
Output impedance; 5 kΩ
Phones jack × 1 ; Output level; 0−0.6 mW/8 Ω
Matching impedance; 8 Ω−1 kΩ
Other terminal : Remote control × 1
Operated every mode using
Power requirement : AC 240/220/120 V, 50/60 Hz
Power consumption : 33 W
Dimensions : 17-1/8″ (435 mm) W
4-3/8″ (110 mm) H
10-7/8″ (277 mm) D
(with feet, buttons, switches)
Weight : Approx. 15 lbs (6.8 kg)
Accessories : Pin cords 2

Design and specifications subject to change without notice.

Dimention

Weight : 6.8 kg
Unit : mm

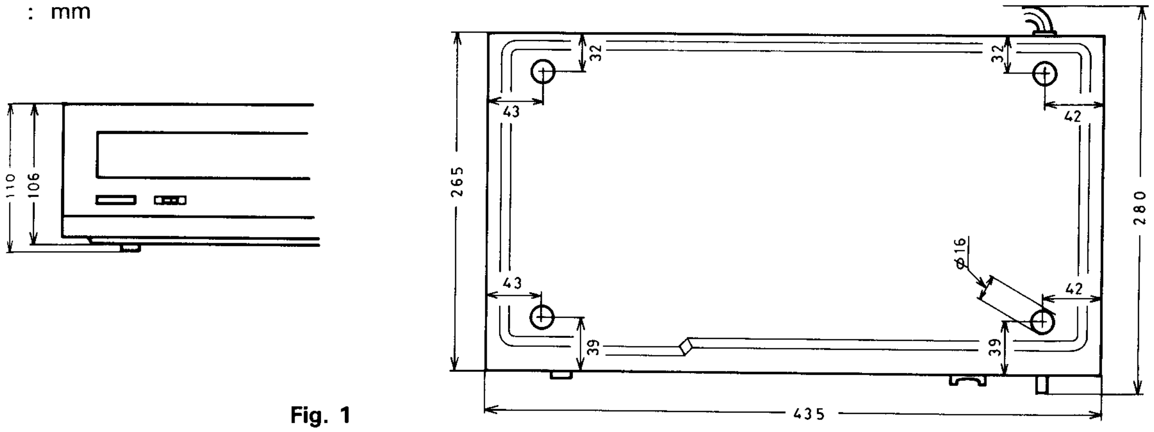
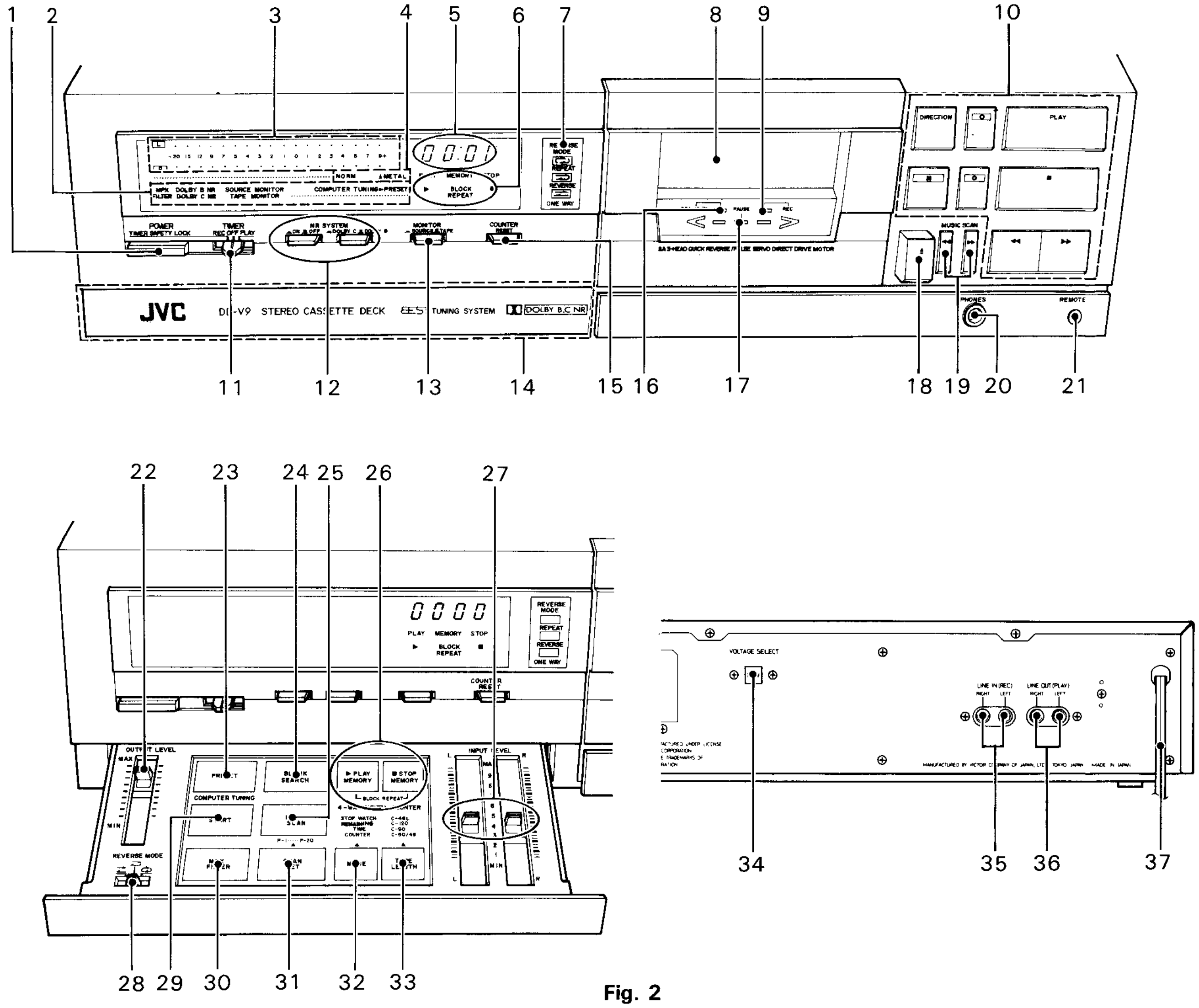


Fig. 1

Controls and Connections


1
2
3
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37
JVC
DD-V9 STEREO CASSETTE DECK
TUNING SYSTEM
DOLBY B.C NR
POWER
TIMER SAFETY LOCK
TIMER
REC OFF PLAY
NR SYSTEM
MONITOR
COUNTER RESET
MEMORY
BLOCK REPEAT
REVERSE MODE
REPEAT
REVERSE
ONE WAY
DIRECTION
PLAY
MUSIC SCAN
PHONES
REMOTE
PAUSE
REC
OUTPUT LEVEL
MAX
MIN
PRESET
BLANK SEARCH
PLAY MEMORY
STOP MEMORY
BLOCK REPEAT
COMPUTER TUNING
START
INDEX SCAN
MPX FILTER
SCAN SET
MODE
TAPE LENGTH
INPUT LEVEL
VOLTAGE SELECT
LINE IN (REC)
LINE OUT (PLAY)
RIGHT
LEFT

Fig. 2

1. POWER switch
2. Indicators
   - MPX FILTER
   - DOLBY B NR/DOLBY C NR
   - TAPE MONITOR/SOURCE MONITOR
   - COMPUTER B.E.S.T. TUNING
   - READY ◄
   - ► PRESET
3. Peak meter
4. TAPE indicators
5. 4-WAY DIGITAL COUNTER
6. MEMORY indicators (► PLAY MEMORY/ ■ STOP MEMORY/BLOCK REPEAT)
7. REVERSE MODE indicators (REPEAT/ REVERSE/ONE WAY)
8. Cassette holder
9. REC indicator
10. Cassette operation buttons
    DIRECTION
    ○ record ... red
    ❚❚ pause ... green
    PLAY
    ■ stop
    O record mute ... orange
    ◄◄rewind
    ►►fast forward
11. TIMER switch
12. NR SYSTEM switches
13. MONITOR switch
14. Sliding control panel
15. COUNTER RESET button
16. REC MUTE indicator
17. Mechanism mode indicators
18. ⏏(eject) button
19. MUSIC SCAN buttons
20. Headphone jack (PHONES)
21. REMOTE control jack
22. OUTPUT LEVEL control
23. PRESET key
24. BLANK SEARCH key
25. INDEX SCAN key
26. Memory keys
    - ► PLAY MEMORY
    - ■ STOP MEMORY
27. INPUT LEVEL controls
28. REVERSE MODE switch
    ▭ REPEAT
    ▭ REVERSE
    ▭ ONE WAY
29. Computer START key
30. MPX FILTER key
31. SCAN SET key
32. Counter MODE key
    - COUNTER
    - REMAINING TIME
    - STOPWATCH
33. TAPE LENGTH key
34. VOLTAGE SELECT switch
35. LINE IN (REC) jacks
36. LINE OUT (PLAY) jacks
37. Power cord

Description of New Technology

Block Diagram (Mechanism Control)

(LM6405A)

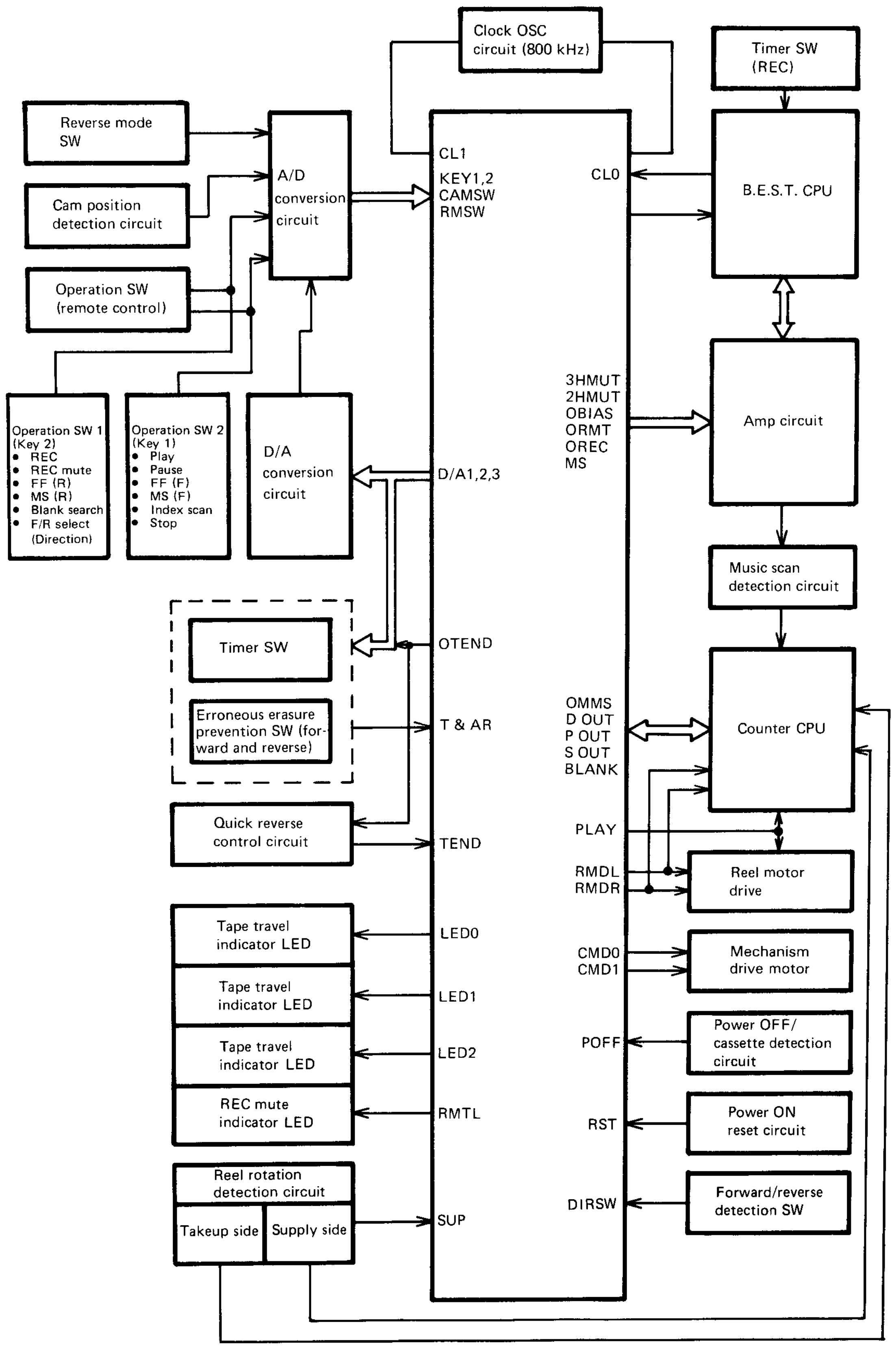

Clock OSC circuit (800 kHz)
Timer SW (REC)
Reverse mode SW
Cam position detection circuit
Operation SW (remote control)
A/D conversion circuit
CL1
KEY1,2
CAMSW
RMSW
CLO
B.E.S.T. CPU
Operation SW 1 (Key 2) • REC • REC mute • FF (R) • MS (R) • Blank search • F/R select (Direction)
Operation SW 2 (Key 1) • Play • Pause • FF (F) • MS (F) • Index scan • Stop
D/A conversion circuit
D/A1,2,3
3HMUT
2HMUT
OBIAS
ORMT
OREC
MS
Amp circuit
Music scan detection circuit
Timer SW
Erroneous erasure prevention SW (forward and reverse)
OTEND
T & AR
OMMS
D OUT
P OUT
S OUT
BLANK
Counter CPU
Quick reverse control circuit
TEND
PLAY
RMDL
RMDR
Reel motor drive
Tape travel indicator LED
Tape travel indicator LED
Tape travel indicator LED
REC mute indicator LED
LED0
LED1
LED2
RMTL
CMD0
CMD1
Mechanism drive motor
POFF
Power OFF/ cassette detection circuit
RST
Power ON reset circuit
Reel rotation detection circuit
Takeup side
Supply side
SUP
DIRSW
Forward/reverse detection SW

Fig. 3

1. Pin Arrangement

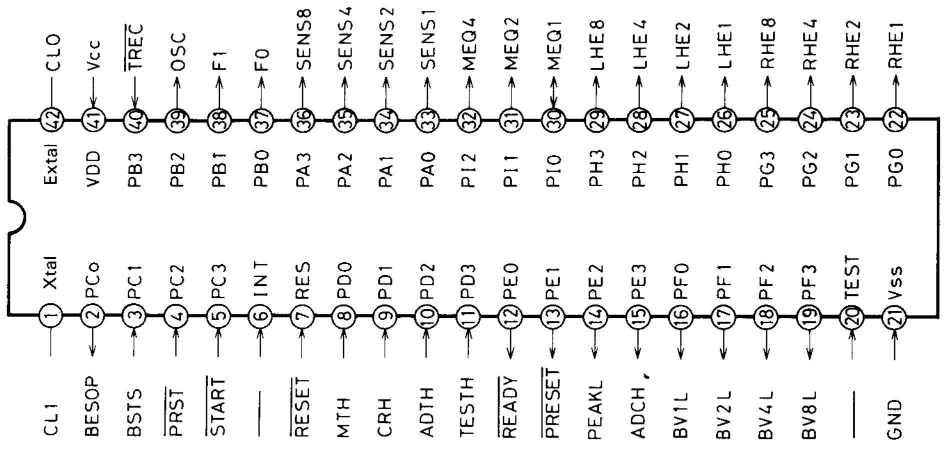

CLO
Vcc
TREC
OSC
F1
F0
SENS8
SENS4
SENS2
SENS1
MEQ4
MEQ2
MEQ1
LHE8
LHE4
LHE2
LHE1
RHE8
RHE4
RHE2
RHE1
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
Extal
VDD
PB3
PB2
PB1
PB0
PA3
PA2
PA1
PA0
PI2
PI1
PI0
PH3
PH2
PH1
PH0
PG3
PG2
PG1
PG0
Xtal
PCo
PC1
PC2
PC3
INT
RES
PD0
PD1
PD2
PD3
PE0
PE1
PE2
PE3
PF0
PF1
PF2
PF3
TEST
Vss
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
CL1
BESOP
BSTS
PRST
START
RESET
MTH
CRH
ADTH
TESTH
READY
PRESET
PEAKL
ADCH
BV1L
BV2L
BV4L
BV8L
GND

Fig. 4

2. Pin Functions of B.E.S.T. CPU

Pin No.	Pin Name	Function Name	Function
1, 42	Xtal, EXtal	CL1, CLO	Pins which connect external components to clock OSC inside the B.E.S.T. CPU
2	PC0	BES OP	Pin to command timer REC or B.E.S.T. operation to the mechanism control CPU ("L": B.E.S.T. operation)
3	PC1	BST S	Input pin to recognize that the mechanism control CPU has accepted the B.E.S.T. operation ("L": accepts the B.E.S.T. operation)
4	PC2	PRST	PRESET key input pin ("L": accepts the PRESET key)
5	PC3	START	START key input pin ("L": accepts the START key)
6	INT	———	Not connected, pulled up to "H"
7	RES	RESET	Power ON reset pin ("L": resets)
8	PD0	MTH	Tape detection input pin ("H": metal)
9	PD1	CRH	Tape detection input pin ("H": CrO_2)
10	PD2	ADTH	A/D conversion input pin ("H": completion of counting)
11	PD3	TESTH	Test mode input pin ("H": test mode)
12	PE0	READY	READY display pin ("L": lights)
13	PE1	PRESET	PRESET display pin ("L": lights)
14	PE2	PEAKL	Pin to emit an "L" output when detecting bias peak; otherwise "H' output
15	PE3	ADCH	A/D conversion control output pin ("L": sampling, "H": starts counting)
16-19	PF0-PF3	BV1L-BV8L	Bias voltage control pins
20	TEST	———	B.E.S.T. CPU input pin. This pin must be "L" when in opertion.
21	VSS	GND	Connected to ground
22-25	PG0-PG3	RHE1-RHE8	R-ch high-frequency EQ output pins
26-29	PH0-PH3	LHE1-LHE8	L-ch high-frequency EQ output pins
30-32	PI0-PI2	MEQ1-MEQ4	Medium-frequency EQ output pins
33-36	PA0-PA3	SENS1-SENS8	REC sensitivitiy output pins
*37	PB0	F0	} B.E.S.T. adjustment signal and filter selection output pins
*38	PB1	F1	
39	PB2	OSC	B.E.S.T. adjustment signal output pin
40	PB3	TREC	Timer REC SW input pin ("L": accepts timer REC)
41	VDD	VCC	5 V

* Filter selection
In addition, F1 selects L-ch with the play input channel selection pin at "H" and R-ch at "L".

	1 kHz	4 kHz	8 kHz	12.5 kHz
F0	L	H	L	H
F1	L	L	H	H

3. Operation

1) B.E.S.T. CPU and mechanism control CPU operations

- The mechanism control CPU implements two operation modes according to commands from the B.E.S.T. CPU.
- Operation mode 1 is the B.E.S.T. tuning mode and operation mode 2 is the timer REC mode.
- Both modes are commanded by the BES OP output of the B.E.S.T. CPU and their discrimination depends upon the "L" width of the BES OP signal.
- Both modes are accepted in the stop mode only when a cassette with tabs is loaded.

Mode 1 : B.E.S. Tuning

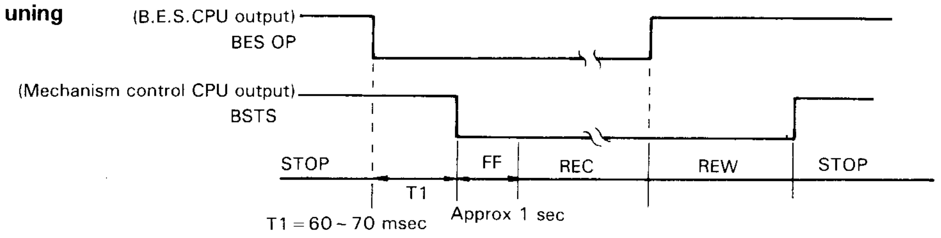

(B.E.S.CPU output)
BES OP
(Mechanism control CPU output)
BSTS
STOP
FF
REC
REW
STOP
T1
T1 = 60 ~ 70 msec
Approx 1 sec

Fig. 5

- During this mode, tape pulses are counted in the mechanism control CPU. The unit enters the REW mode when the BES OP signal becomes "H". Then, the tape is rewound and stops at the tape start point of the B.E.S.T. tuning.
- During this mode, as the muting signal is output from the mechanism control CPU, the LINE OUT signal is muted during tape monitoring.
- During this mode, the STOP button alone is accepted among the cassette operation buttons.

Mode 2 : Timer REC

In this mode, the B.E.S.T. CPU puts the mechanism control CPU into the REC mode after completing the B.E.S.T. tuning operation at mode 1. At this time, the REC command is executed as shown below.

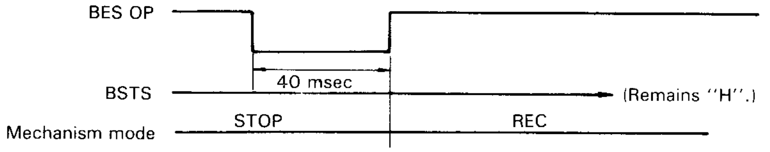

BES OP
BSTS
40 msec
(Remains "H".)
Mechanism mode
STOP
REC

Fig. 6

2) B.E.S. Tuning

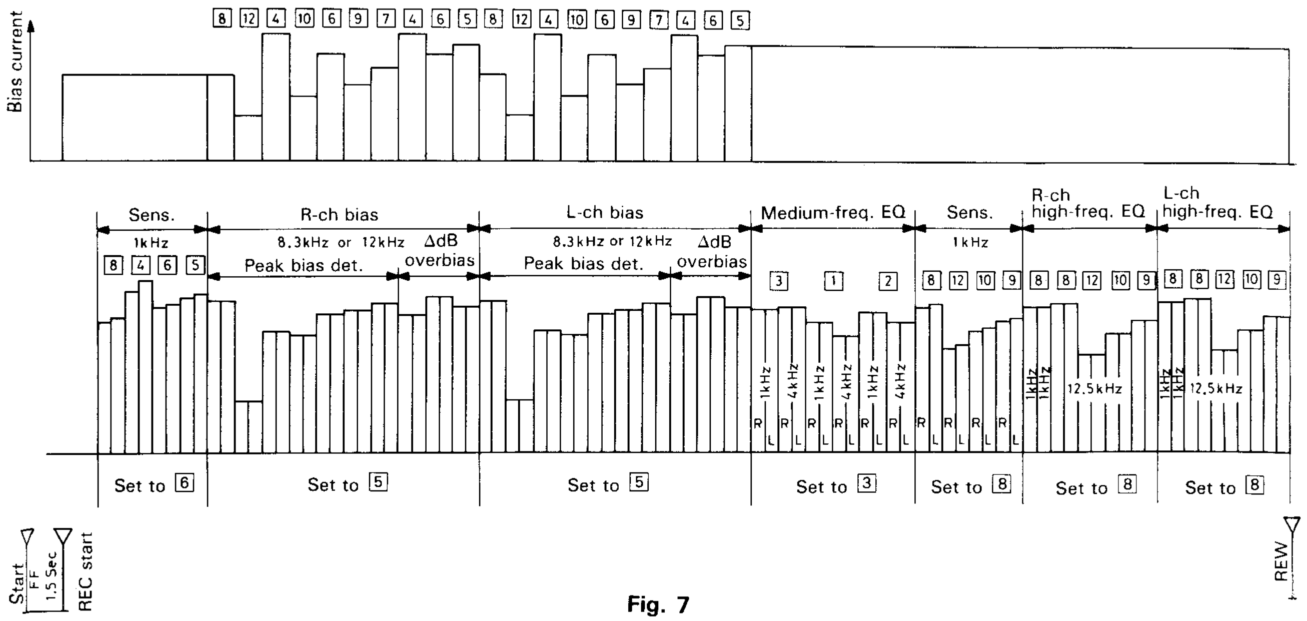

Bias current
8 12 4 10 6 9 7 4 6 5 8 12 4 10 6 9 7 4 6 5
Sens.
1kHz
8 4 6 5
R-ch bias
8.3kHz or 12kHz ΔdB
Peak bias det.
overbias
L-ch bias
8.3kHz or 12kHz ΔdB
Peak bias det.
overbias
Medium-freq. EQ
3 1 2
Sens.
1kHz
8 12 10 9
R-ch high-freq. EQ
8 8 12 10 9
L-ch high-freq. EQ
8 8 12 10 9
1kHz
4kHz
12.5kHz
R
L
Set to 6
Set to 5
Set to 5
Set to 3
Set to 8
Set to 8
Set to 8
Start
FF
1.5Sec
REC start
REW

Fig. 7

- When START is made "L" by pressing the START key, the B.E.S.T. tuning operation (mode 1) starts. When the unit enters the REC mode in mode 1, the bias, medium-frequency EQ, sensitivity and high-frequency EQ levels are determined in the order shown in Fig. 6. When the unit enters the READY mode, the determined values are output from the respective output pins.

- **A/D conversion**

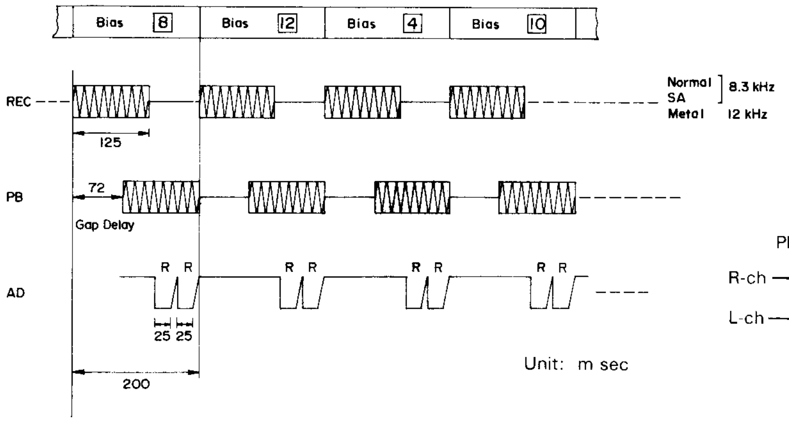

Bias 8
Bias 12
Bias 4
Bias 10
REC
Normal
SA
8.3 kHz
Metal
12 kHz
125
PB
72
Gap Delay
AD
R R
25 25
200
Unit: m sec

Fig. 8

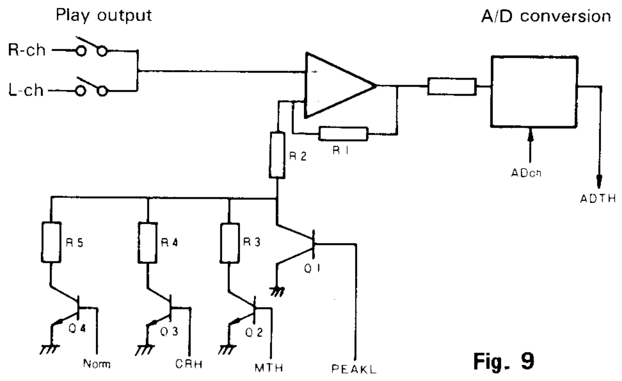

Play output
A/D conversion
R-ch
L-ch
R 2
R 1
ADch
ADTH
R 5
R 4
R 3
Q 1
Q 4
Q 3
Q 2
Norm
CRH
MTH
PEAKL

Fig. 9

This A/D conversion circuit is the same as that used in the DD-99. The buffer amplifier in the first stage uses a switching transistor circuit in its feedback section. Thereby, the gain can be varied by transistor ON-OFF switching operation. Concretely, to detect the peak bias values, Q1 is held open with PEAKL made "L"; with a normal type, Q4 is turned ON to lower the gain by R5.

Except when detecting te peak bias value, PEAKL is made "H" to turn ON Q1 to increase the gain. This defference in gain corresponds to ΔdB overbias when determining the optimum bias.

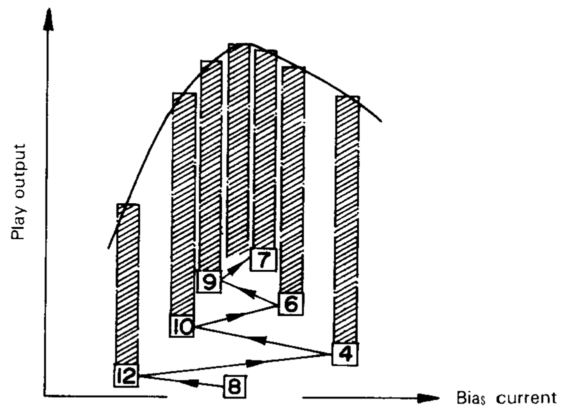
Thus, R5 determines the overbias point for normal tape, R4 for CrO_2 tape and R3 for metal tape. In this case, the higher the resistance value, the more the bias, while the lower, the less the bias.

- **Measuring**

The bias value is variable in the range of steps 0 to 15. The magnitude of the measurement bias value determines whether the bias is increased or decreased. Concerning the bias value to be varied in the predetermined order, the amount of variation is lowered gradually as it is 4 the first time, 2 the second time and 1 the third time.

This is automatically performed by the judgement of the B.E.S.T. CPU to reduce the time required to reach the optimum bias as short as possible.

As the sensitivity, medium-frequency EQ (M EQ) and high-frequency EQ (H EQ) levels are automatically determined similar to the bias, each EQ value differs for different tapes depending upon the measurement EQ value. When this method is compared with the DD-99, the measuring time is greatly reduced with exactly same accuracy.



Peak detecting algorithm for bias characteristics

Fig. 10

	0 ——→ 15	
Bias	Increases	Decreases
Sens	Increases	Decreases
H EQ	Rises	Drops
	0 ←——→ 7	
M EQ	Lowers	Rises

Main Parts Location

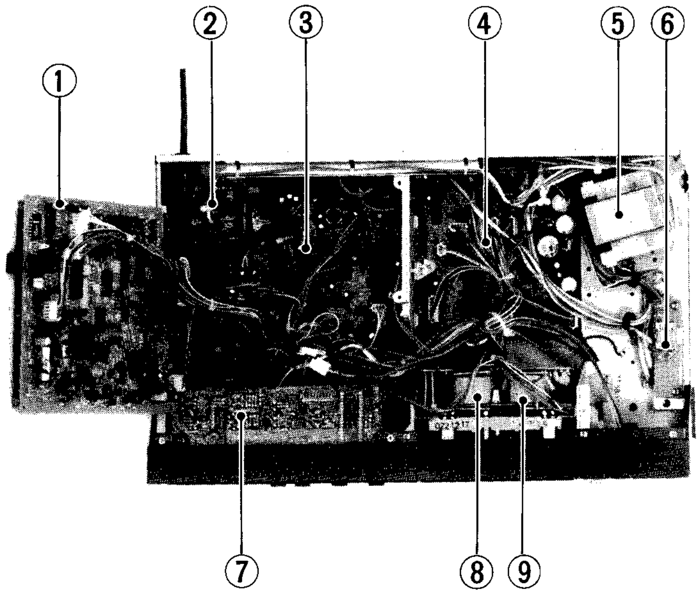


Fig. 11

1. B.E.S. tuning P.W. Board assembly (Computer P.W.B.)
2. Power switch assembly
3. Main amp. P.W. Board assembly
4. Mechanism control P.W. Board assembly
5. Power transformer
6. Power transistor and fuse P.W. Board
7. Display P.W. Board assembly (F.L. meter P.W. Board)
8. Mechanism drive motor
9. Reel motor

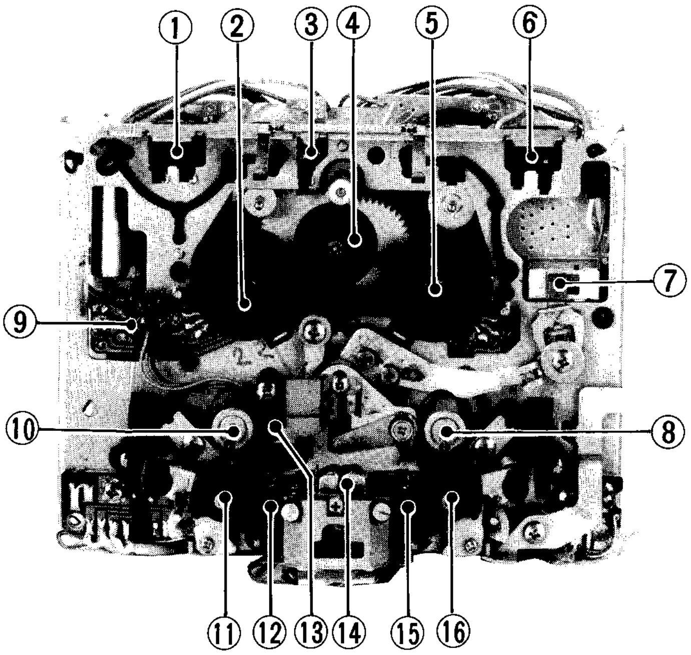


Fig. 12

Mechanical Part

1. Leaf switch (Erroneous erasure prevention switch and chrome tape detection switch)
2. Reel disc assembly
3. Leaf switch (for metal tape detective switch)
4. Idler assembly unit
5. Reel disc assembly
6. Leaf switch (Erroneous erasure prevention switch and tape detection switch)
7. Slide switch (Forward/reverse detection switch)
8. Capstan shaft (Forward)
9. Hall IC P.W. Board
10. Capstan shaft (Revese)
11. Pinch roller arm assembly (Reverse)
12. Erase head (Forward)
13. Refractor (for tape and detection)
14. Record/playback combination heads
15. Erase head (Reverse)
16. Pinch roller arm assembly (Forward)

Removal of Main Parts

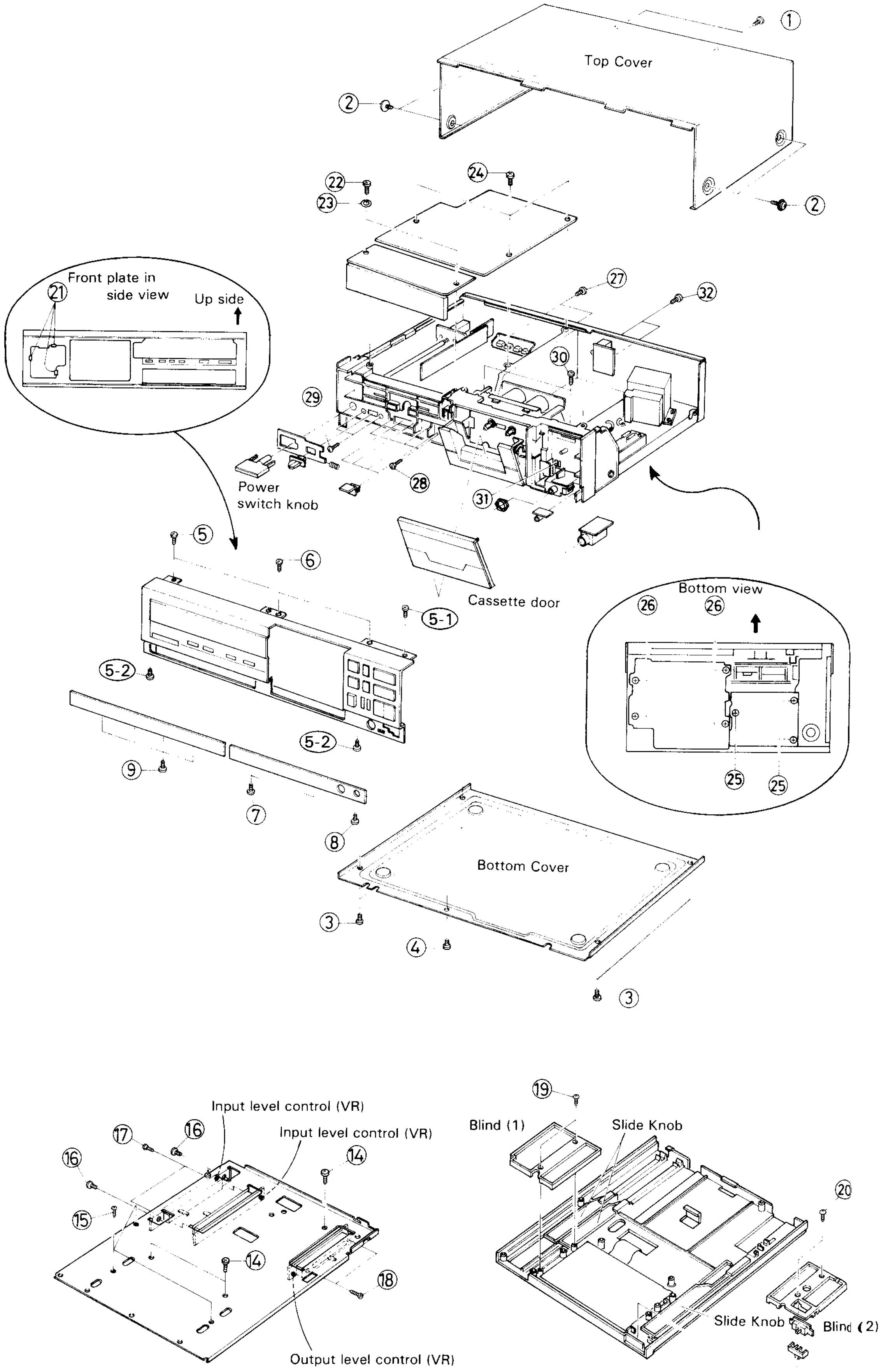

①
Top Cover
②
②
㉒
㉓
㉔
Front plate in side view
㉑
Up side
㉗
㉜
㉚
㉙
Power switch knob
㉘
㉛
⑤
⑥
Cassette door
5-1
5-2
5-2
⑨
⑦
⑧
Bottom view
㉖
㉖
㉕
㉕
Bottom Cover
③
④
③
Input level control (VR)
Input level control (VR)
⑰
⑯
⑯
⑭
⑮
⑭
⑱
Output level control (VR)
⑲
Blind (1)
Slide Knob
⑳
Slide Knob
Blind (2)

Fig. 13

Enclosure Assembly Parts

- Top cover (Fig. 13)
  Remove 6 screws ① and ②
- Bottom Cover (Fig. 13)
  1) Remove 4 screws ③
  2) Remove a screws ④ fastening the front side of bottom center.
- Cassette door (Fig. 13)
  Push the EJECT button to open the cassette door. Slide off the cassette door upwards to unlock its pawls of both sides.
- Front plate assembly (Fig. 13)
  1) Remove 5 screws (5-1) and ⑥ fastening the upside of front plate.
  2) Remove 2 screws (5-2) fastening the under side of front plate.
  3) Remove 3 screws ⑦ and ⑧.
  4) Remove 4 screws ⑨.
  5) Cut the wire holder and disconnect the connect wire assembly for mechanism operation from the mechanism control P.W. Board.
- Draw panel assmbly (Fig. 15)
  1) Remove 2 screws ⑩ fastening the bracket.
  2) Remove 2 screws ⑪ fastening the both side of holder.
  3) Remove 2 screws ⑫ fastening the slider.
  4) Remove 3 screws ㉜ and ㉝ .
  5) Remove a parallel wire from the connector 13 on the main P.W. Board. (Fig. 16)
- Draw panel parts (Fig. 13)
  1) Remove 6 screws ⑭ and ⑮ fastening the bottom cover.
  2) Remove 4 screws ⑯ and ⑰ fastening the input V. Resistor (⑯ : Left, ⑰ Right side)
  3) Remove 2 screws ⑱ fastening the output V. Resistor.
  4) Remove 2 screws ⑲ fastening the blind (1) of input volume.
  5) Remove 2 screws ⑳ fastening the blind (2) of output volume.

Electrical Parts

1. Cassette operation switch P.W. Board assembly (Fig. 13)
   Remove 3 pawls ㉑ fastening the operation switch P.W. Board assembly from front plate inside.
2. Display P.W. Board (F.L. Meter P.W. Board) (Fig. 13)
   Remove 2 screws ㉒ and ㉓ .
3. B.E.S. Tuning P.W. Board (Computer P.W. Board) (Fig. 13)
   Remove 3 screws ㉔ .
4. Mechanism control P.W. Board (Fig. 13)
   Remove 3 screws ㉕ .
5. Main amp. P.W. Board (Fig. 13 and Fig. 15)
   1) Remove the draw panel assembly.
   2) Remove 4 screws ㉖ .
   3) Remove 2 screws ㉗ fastening the pin jack from back side of rear panel.
6. Switch P.W. Board (Fig. 13)
   1) Pull out 4 knobs (NR. SYSTEM, MONITOR, COUNTOR).
   2) Remove ② screws ㉘ fastening the switch assembly.
7. Timer switch P.W. Board (Fig. 13)
   1) Pull out 2 knobs (power switch, timer switch).
   2) Remove the bracket with spring.
   3) Remove 2 screws ㉙ .
8. Voltage Select Switch (Fig. 13)
   Remove 2 screws ㉜ .

Mechanical Assembly

1) Remove 2 screws ㉚ .
2) Remove a pawls ㉛ fastening the gear oil dump.

Mechanical Parts

Mechanical parts is the same as those of the service manual for DD-V7 A/B/C/E/J/U (No. 4220)
Please refer to the service manual of DD-V7 A/B/C/E/J/U (No. 4220)

* To remove the damper without removing the front panel, put a screwdriver, etc. in the square hole beside the damper ad move the screwdriver sideways.

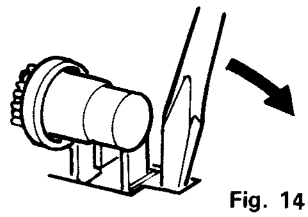


Fig. 14

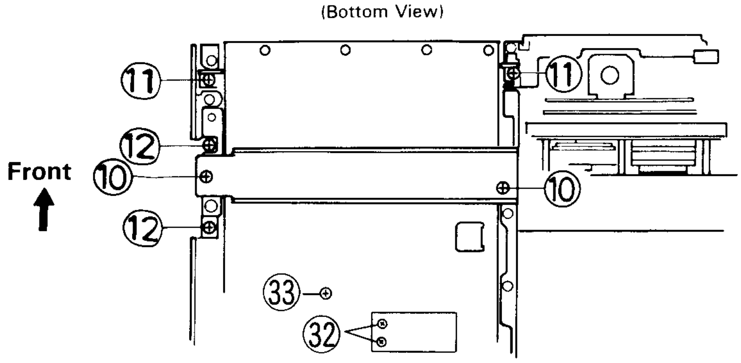


Fig. 15

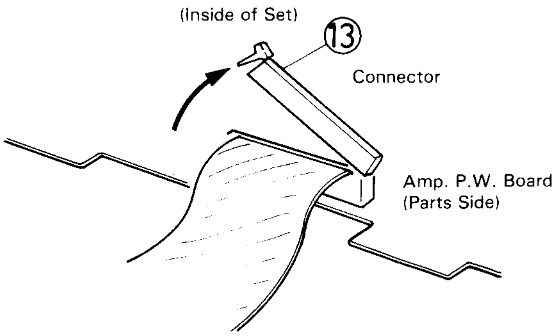


Fig. 16

Main Adjustments

[I] Equipment and Measuring Instruments used for Adjustment

1. Electrical adjustment

1) Electronic voltmeter
2) Audio frequency oscillator (range: 50—20 kHz and output 0 dB with impedance 600 Ω)
3) Attenuator
4) Standard tapes for REC/PB
   - Maxell UD — Normal tape (TS-5)
   - TDK SA — Chrome tape (TS-6)
   - JVC ME — Metal tape (TS-7)

   } or equivalent
5) Reference tapes for playback (JVC Test Tape)
   - VTT-658 (for head azimuth adj.)
   - VTT-656A-A (for motor speed, wow flutter adj.)
   - VTT-664 (for Reference Level 1 kHz)
   - TTT-675N (for playback frequency response)
   - TMT-6447 (for music scanning)
   - TMT-6448 (for music scanning)
6) Resistors
   - 600 Ω (for attenuator matching)

2. Mechanical adjustment

1) Torque testing cassette gauge. (CTG-N)
2) Blank tape (C-120) for tape running checker.

[II] Mechanical part of Adjustment and Replacement

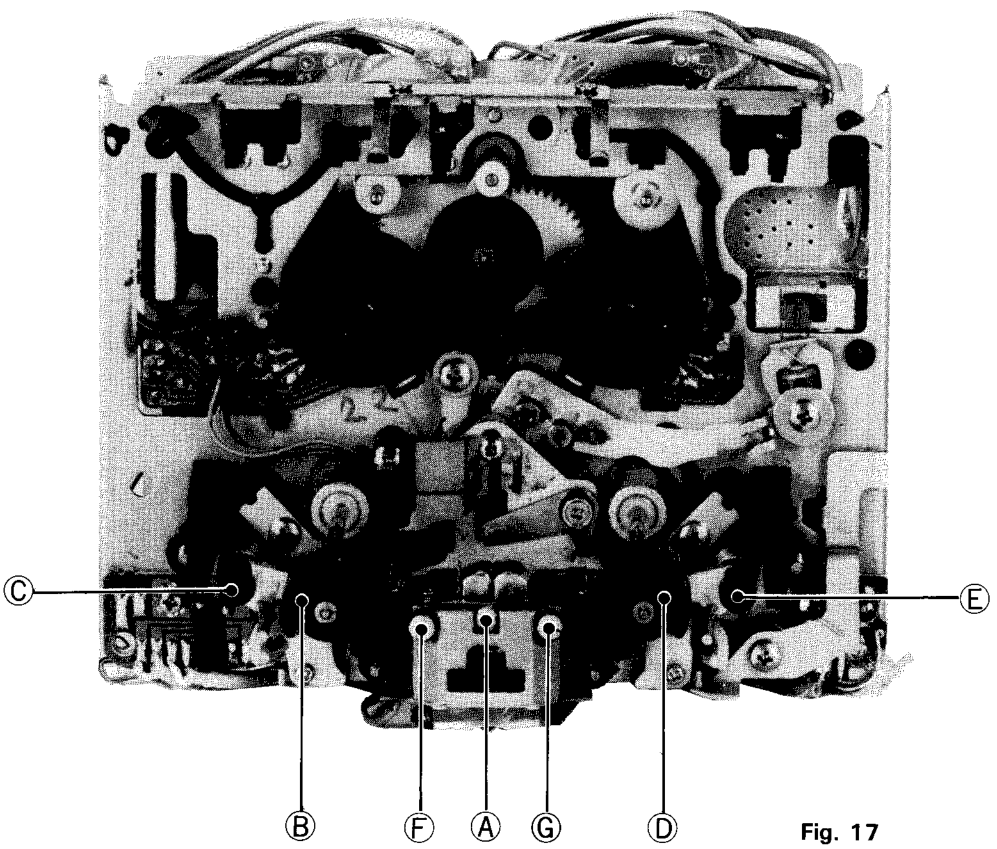
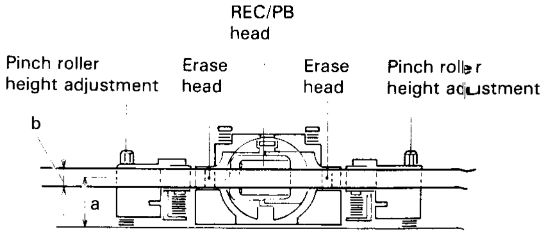


Fig. 17

Tape run adjustment

1) Put the mechanism into the PAUSE mode, then adjust the height of right and left tape guides Ⓑ and Ⓓ to that of the REC/PB head tape guide with adjustment screws Ⓒ and Ⓔ.
2) Check the erasing cofficient of TS-7 (metal tape) by listening in the forward and reverse modes.
   — **checking method** —
   Erase the tape on which a 400 Hz or 1 kHz input of 0 VU +20 dB is recorded, then check that to sound is heard.
3) After adjustment, protect screws Ⓒ and Ⓔ against loosening by painting screw locking compound.


REC/PB head
Pinch roller height adjustment
Erase head
Erase head
Pinch roller height adjustment
b
a

$a = 17.6 \pm 0.15$ mm
$b = 3.82 \pm^{0.08}_{0}$ mm

Fig. 18

REC/PB head azimuth adjustment

1) Connect an electronic voltmeter to LINE OUT and a low frequency oscillator and an attenuator to LINE IN.
2) Forward play back VTT-658 with side A towards you, then adjust screw Ⓕ so that the output is maximized.
3) Forward record 12.5 kHz input of −20 dB on TS-5 with side A towards you, rewind it and check the output level.
4) Set side B of TS-5 towards you, reverse play back the section recorded in 3), and adjust screw Ⓖ so that the output is maximized.
5) After adjustment, protect screws Ⓕ and Ⓖ against loosening by painting screw locking compound.

   — **when replacing the head** —

   In the rotary head section for auto reverse, its tilt, azimuth, height, etc. are adjusted precisely. Therefore, when the REC/PB head alone has been repalced, they must be readjusted. In this place, replace the head block.

Others

When assembling the mechanism once it has been disassembled, engage the gear sections so that the markings (holes) of the head base and pinch roller cams are aligned with each other.

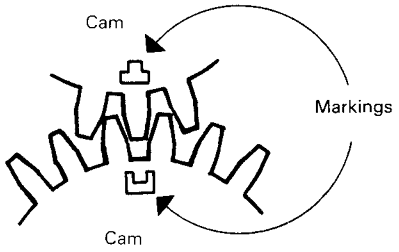


Fig. 19

Mechanical Adjustment

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting motor speed	Connect a speed meter (an electronic counter) to the LINE OUT terminals. Play back the VTT-656A-A test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the motor	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking wow and flutter	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT-656A-A test tape. Check to see if the reading of the meter is within 0.03% (WRMS).		0.03% (WRMS) 0.06% (DIN 45500)	If the reading becomes moving value even if conforming to the standard, a reclaim may be raised. Repairs are necessary.
Checking playback torque	Employ a torque testing cassette tape (CTG-N) for the checking, or remove the cassette cover and use a torque gauge.		40−70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 80 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Multi-music scan check	1. Using a TMT-6447 with the counter display switch set to MMS. Push the FF SCAN or REW SCAN button to check scanning. 2. Using the TMT-6448, the music scan mechanism does not function.			
Adjusting auto reverse	Adjust VR01 so that the voltage at 1-PIN of CNM05 is 0.23 V for the transparent section of TS-5 leader tape in the stop mode.			

[III] Electrical Adjustments Location

Main amp. P.W. Board (Parts side)

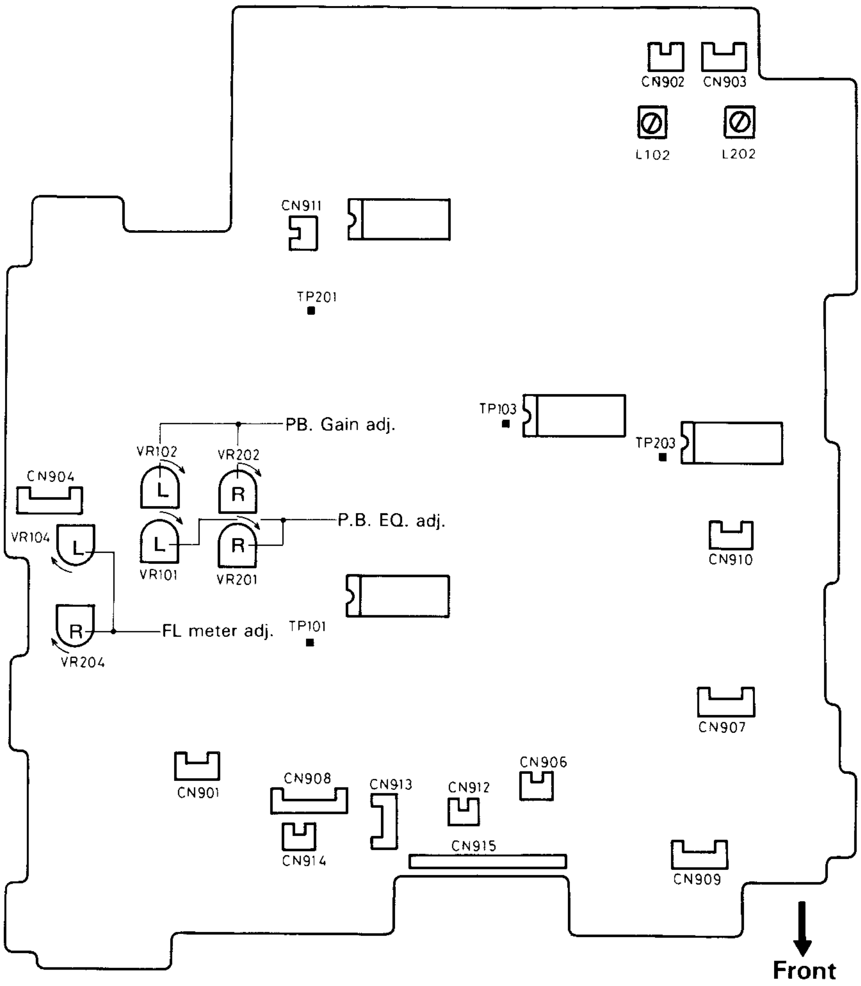

CN902
CN903
L102
L202
CN911
TP201
TP103
TP203
PB. Gain adj.
VR102
VR202
CN904
L
R
P.B. EQ. adj.
VR104
L
L
R
VR101
VR201
CN910
R
FL meter adj.
TP101
VR204
CN907
CN906
CN901
CN908
CN913
CN912
CN914
CN915
CN909
Front

Fig. 20

Computer P.W. Board (Parts side)

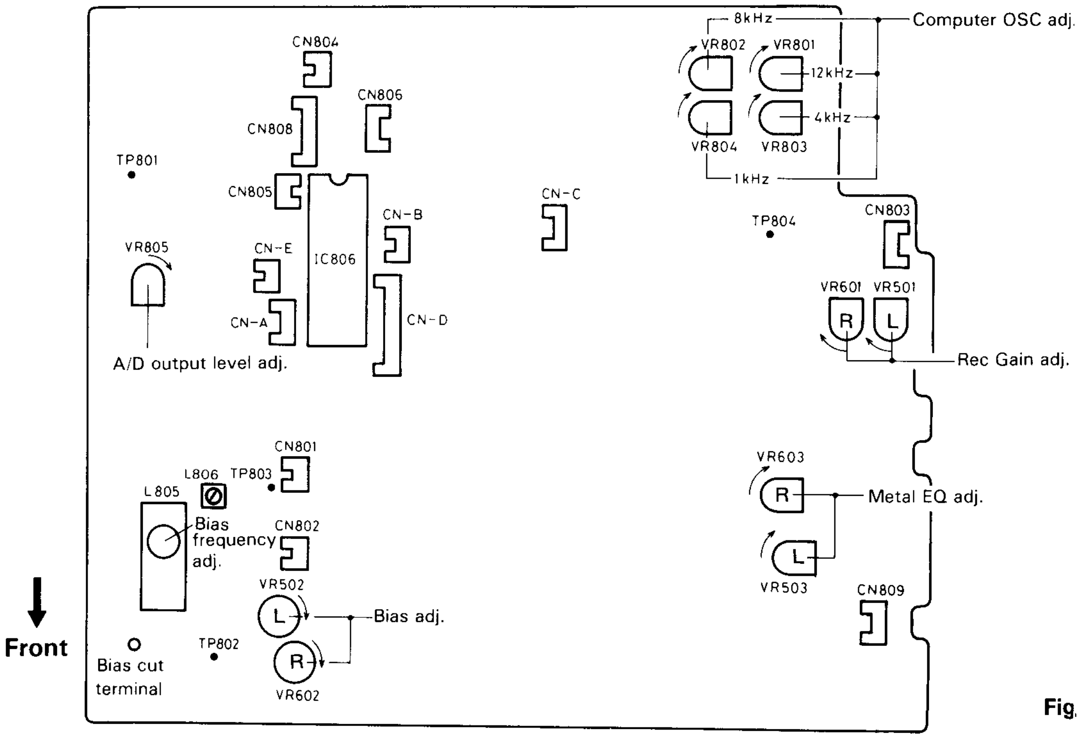
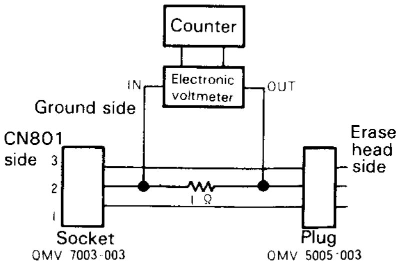
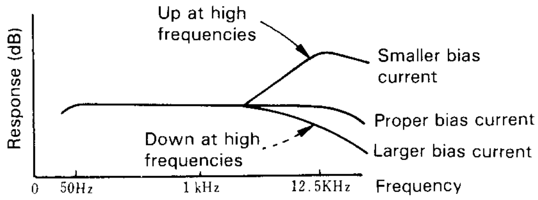

8kHz
Computer OSC adj.
VR802
VR801
12kHz
4kHz
VR804
VR803
1kHz
CN804
CN806
CN808
TP801
CN805
CN-C
CN-B
CN803
TP804
VR805
CN-E
IC806
VR601
VR501
R
L
CN-A
CN-D
Rec Gain adj.
A/D output level adj.
CN801
VR603
L806
TP803
L805
R
Metal EQ adj.
Bias frequency adj.
CN802
L
VR503
VR502
CN809
L
Bias adj.
Front
Bias cut terminal
TP802
R
VR602

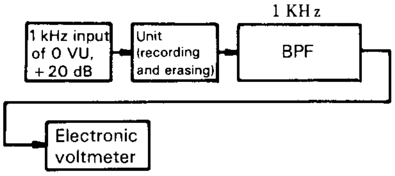
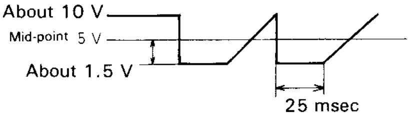
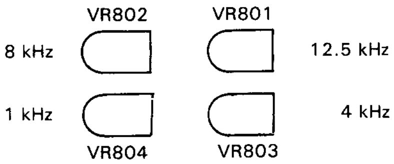
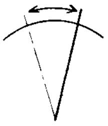
Fig. 21

[IV] Electric circuit adjustment procedure

Implement this procedure after adjusting tape travel and azimuth. Adjustment should be performed in numerical order .... Measurement should be performed with MPX FILTER key OFF and output level control at MAX.

Step	Item	Adjustment	Adjustment points	Standard value	Remarks
1	PB level	1) Set Dolby NR SW to OFF. 2) Set MONITOR SW to TAPE. 3) Play back VTT-664 (1 kHz) and adjust VR102 and VR202 so that LINE OUT level becomes −4 dBs.	VR102, VR202 (Amp P.W. Board)	−4 dBs	
2	PB frequency response	Play back VTT-675N (1 kHz, 10 kHz) and adjust VR101 and VR201 so that the response at 1 kHz and 10 kHz becomes flat.	VR101, VR201 (Amp P.W. Board)	0±2 dB at 10 kHz with 1 kHz reference	
3.	Adjusting skewing coil	1) Set MONITOR SW to SOURCE. 2) Apply 17.5 kHz input of about −20 dBs from LINE IN. 3) Set Dolby NR SW to OFF and adjust input level controls so that LINE OUT level becomes −4 dBs. 4) Set Dolby NR SW to ON and Dolby C SW to ON. 5) Adjust L102 and L202 so that LINE OUT level becomes −4 dBs. 6) Confirm that the deviation in output level between 10 kHz and 20 kHz is within ±0.5 dB.	VR103, VR203 (Input level controls) L102, L202 (Amp P.W. Board)		
4.	FL (fluorescent) level indicator sensitivity	1) Set MONITOR SW to SOURCE. 2) Apply 1 kHz input of about −20 dBs from LINE IN. 3) Adjust input level controls so that LINE OUT level becomes −4 dBs. 4) Adjust VR104 and VR204 so that "0 dB" points in the FL level indicator light. At this time, when input ATT is turned down by 0.5 dB, both "0 dB" points for R-ch and L-ch should go out. 5) Turn down input ATT by 20 dB. 6) Adjust VR351 and VR451 so that "−20 dB" points in the FL level indicator light. AT this time, when input ATT turned down by 2 dB, they should both go out. 7) Check 4)	VR103, VR203 (Input level controls) VR104, VR204 (Amp P.W. Board) VR351, VR451 (FL P.W. Board)		
5.	Bias OSC frequency	1) Connect erase current measuring instruments to CN801 erase head wire as follows: 2) Connect an electronic voltmeter across 1-ohm resistor and the output of the voltmeter to the counter. 3) Use a metal tape and put the unit in REC pause mode. 4) Adjust OSC block L805 so that bias OSC frequency becomes 81 kHz ±1 kHz 5) Adjust L806 so that erase current is maximized. 6) Switch the tape direction and adjust L806 so that bias OSC frequency difference between forward and reverse tape directions is minimized.	(Computer P.W. Board) L805 L806 L806		 Counter Electronic voltmeter IN OUT Ground side CN801 side 3 2 1 1 Ω Erase head side Socket QMV 7003-003 Plug QMV 5005-003

Step	Item	Adjustment	Adjustment points	Standard value	Remarks
6.	REC/PB frequency response	1) Set MONITOR SW to SOURCE. 2) Apply 1 kHz input of about −20 dBs from LINE IN. 3) Adjust input level controls so that LINE OUT level becomes −4 dBs. 4) Turn down input ATT by 20 dB 5) Use a normal tape and put the unit in REC mode. 6) Set MONITOR SW to TAPE. 7) Record 1 kHz and moreover 50 Hz and 12.5 Hz. Play back this recording. Then, adjust VR502 and VR602 so that the deviations in output level of 50 Hz and 12.5 kHz from 1 kHz reference meet the standard values. (Basically, adjust so that the response at 1 kHz and 12.5 kHz is flat.) 8) Use a metal tape, record 1 kHz and 12.5 kHz on it and play back this recording. Then, adjust VR503 and VR603 so that the response at 1 kHz and 12.5 kHz is flat. 9) Use a chrome tape, record 50 Hz, 1 kHz and 12.5 kHz on it and play back this recording. Then, confirm that the response meets the standard value.	(Computer P.W. Board) VR502, VR602 VR503, VR603	With 1 kHz reference, 0±3 dB at 50 Hz and 0±3 dB at 12.5 kHz	
					Incorrect adjustment of bias current gives the recording characteristics shown on the left.
7.	REC level	1) Apply 1 kHz input of about −10 dB from LINE IN and adjust the input level controls so that LINE OUT level becomes −4 dBs. 2) At this time, after confirming that "0 dB" points in FL level indicator light, record on a normal tape at 0 dB for R-ch and L-ch. 3) To obtain 0 dB level playing back this recording, adjust REC signal current.	VR501, VR601 (Computer P.W. Board)	0 dB	For both normal and chrome tapes, the level difference between R-ch and L-ch should be less than 1 dB (1 VU). Use a normal tape for adjustment and confirm that adjustment level difference is less than 1.5 dB and level difference between R-ch and L-ch is less than 1.0 dB for chrome and metal tapes.
8.	Checking REC distortion rate	1) Record 1 kHz signal on which LINE OUT level is −4 dBs and FL level indicator indicates "0 dB". 2) Check this PB output with a distrotion meter and confirm that the distortion rate meets the standard value.		Normal tape: less than 2.5% Chrome tape: less than 3% Metal tape: less than 2%	This check should be performed after adjusting bias current and REC level.
9.	Checking REC S/N	1) First record 1 kHz input at FL level indicator "0 dB", then cut off the input partway and perform no-signal recording. 2) Play back this recording and measure the ratio of 0 dB REC output and no-signal REC output with an electronic voltmeter. This ratio should meet the standard value.		Normal tape: more than 42 dB Chrome tape: more than 42 dB	With input level controls set to MAX, apply an input (−21 dBs) with which FL level indicator indicates "0 dB".

Step	Item	Adjustment	Adjustment points	Standard value	Remarks
10.	Checking erasing coefficient	1) Apply 1 kHz input from LINE IN and adjust input level controls so that FL level indicator indicates "0 dB". 2) Turn up the REC level by 20 dB and record 1 kHz input. 3) Rewind the tape and erase a part of the recording. 4) Measure the output ratio of eased and non-ersed parts with an electronic voltmeter.		More than 65 dB	Connect a BPF between the unit and electronic voltmeter for measurement. Check it with a metal tape.  1 KHz 1 kHz input of 0 VU, +20 dB Unit (recording and erasing) BPF Electronic voltmeter
11.	Adjusting B.E.S.T. A/D	1) Switch the power OFF and connect a computer checker. Use DD-9 computer checker No. 4. (• Connect TESTH wire to pin TESTH of the adapter. • NONH wire is not needed. • Connect ground wire to the chassis of the unit.) 2) Set the MONITOR and TEST SWs of the checker to ON. (Set the other SWs to OFF.) 3) Switch the power of the unit ON. 4) After confirming that the SENS bits change between logic 0 and 1, press the PRESET key on SENS 8 to fix the SENS bits. (Pressing the PRESET key again causes the SENS bits to start to change.) 5) Record 1 kHz input of −20 VU on UD tape. 6) Check the output waveform at AD TP801.  7) Adjust VR805 so that A/D value is 128.	VR805		When REC/PB is performed at a preset value (SENS 8), the LINE OUT level becomes about 24 dB.
12.	Adjusting B.E.S.T. OSC	1) Use a UD tape and put the unit in pause mode. 2) Measure TP804 with an electronic voltmeter. 3) Confirm that oscillation occurs at 1 kHz. Adjust VR804 so that the output is peak at −31 dBs. 4) Press the START key and confirm that oscillation occurs at 4 kHz. Adjust VR803 so that the output is peak at −32 dBs. 5) Press the START key and confirm that oscillation occurs at 8 kHz. Adjust VR802 so that the output is peak at −32 dBs. 6) Press the START key and confirm that oscillation occurs at 12.5 kHz. Adjust VR801 so that the output is peak at −32 dBs.  VR802 VR801 8 kHz 12.5 kHz 1 kHz 4 kHz VR804 VR803	VR804 VR803 VR802 VR801		 Read the peak value as the pointer swings.

Step	Item	Adjustment	Adjustment points	Standard value	Remarks
		For test program: (1) The B.E.S.T. tuning mode is selected from the four modes (SENS, MEQ, BIAS, HEQ) by pressing the START key. POWER ON SENS→MEQ→BIAS→HEQ (2) Each of these modes stops stepped change of the value by pressing the PRESET button. (Pressing the PRESET button again causes it to change).			
13.	Checking B.E.S.T. tuning operation	1) Set the TEST SW of the checker to OFF to turn the power ON. Check the checker bits. BIAS SENS M EQ H EQ (L/R) 7 8 3 8 2) Load a UD tape and press the START key, then confirm that the unit enters READY mode. Record 1 kHz, 4 kHz and 12.5 kHz at −20 VU, rewind the recording and play it back. Then, confirm than the deviations in output level of 4 kHz and 12.5 kHz from 1 kHz are within ±1 dB. 3) Also check 2) with SA or metal tape.			

Step	Item			Frequency and input level	Output raise value, deviation value	
14	Checking DOLBY circuit (Rec mode)	Signal input: LINE IN Cal. Level: 400 Hz −6 dBs Output terminal: No.1, No.3 of CN910	DOLBY B (Rec)	1 kHz, Cal −40 dB	+5.7 dB	±1 dB
				5 kHz, Cal −20 dB	+3.5 dB	±1.5 dB
				1 kHz, Cal	0 dB	±1 dB
			DOLBY C (Rec)	1 kHz, Cal −40 dB	+17 dB	±1.5 dB
				5 kHz, Cal −20 dB	+3.5 dB	±1.5 dB
				1 kHz, Cal	0 dB	±1 dB

Checker Connection

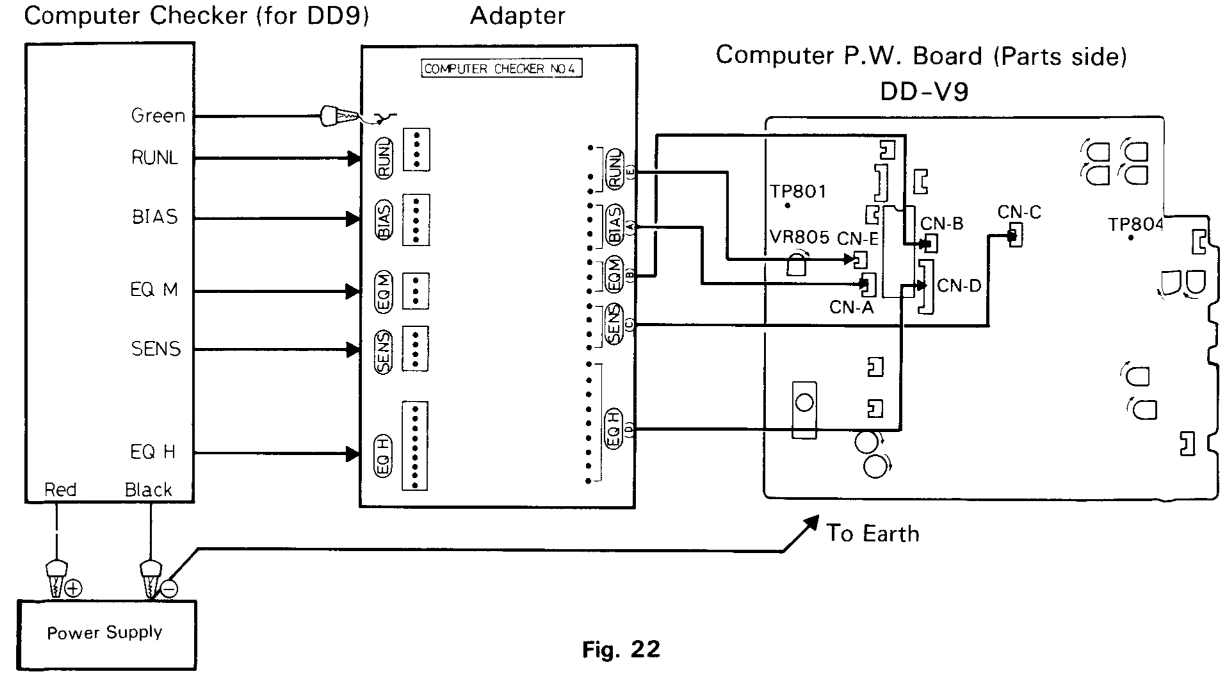
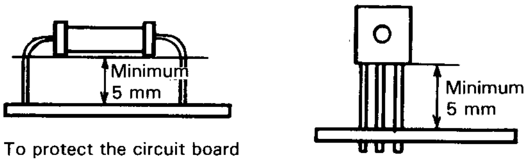

Computer Checker (for DD9)
Adapter
Computer P.W. Board (Parts side)
DD-V9
COMPUTER CHECKER NO.4
Green
RUNL
BIAS
EQ M
SENS
EQ H
Red
Black
RUNL
BIAS
EQM
SENS
EQ H
(E)
(A)
(B)
(C)
(D)
TP801
VR805
CN-E
CN-B
CN-C
CN-A
CN-D
TP804
To Earth
Power Supply
⊕
⊖

Fig. 22

Safety Precautions

⚠ Safety mark

Safety is very important with this unit. When replacing the parts marked ⚠ , be sure to use only those designated parts. The designated resistors, diodes, transistors become hot in use. When replacing, be sure to secure them with a distance of more than 5 mm from the circuit board. In addition, they are banded together to avoid touching other wiring, recheck this point as well after repair.
The wiring of the primary side should be wound more than one and half times, then soldered.



To protect the circuit board from carbonized under abnormal condition.

Fig. 23

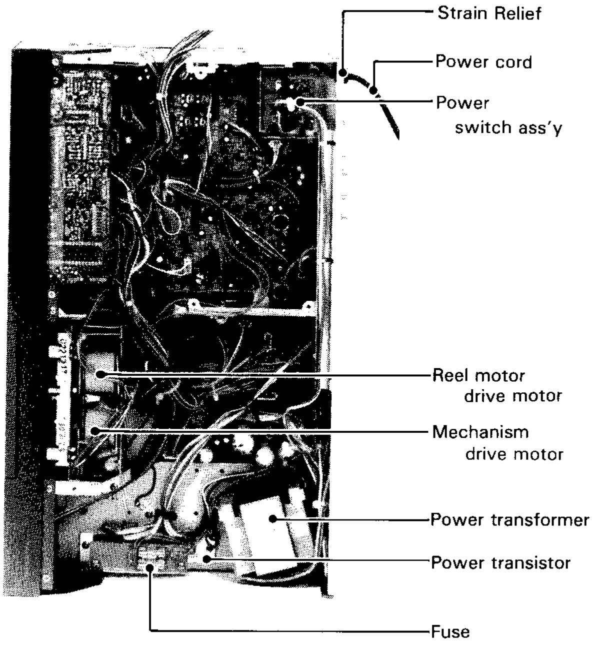


Fig. 24

Safety Component Parts List ⚠

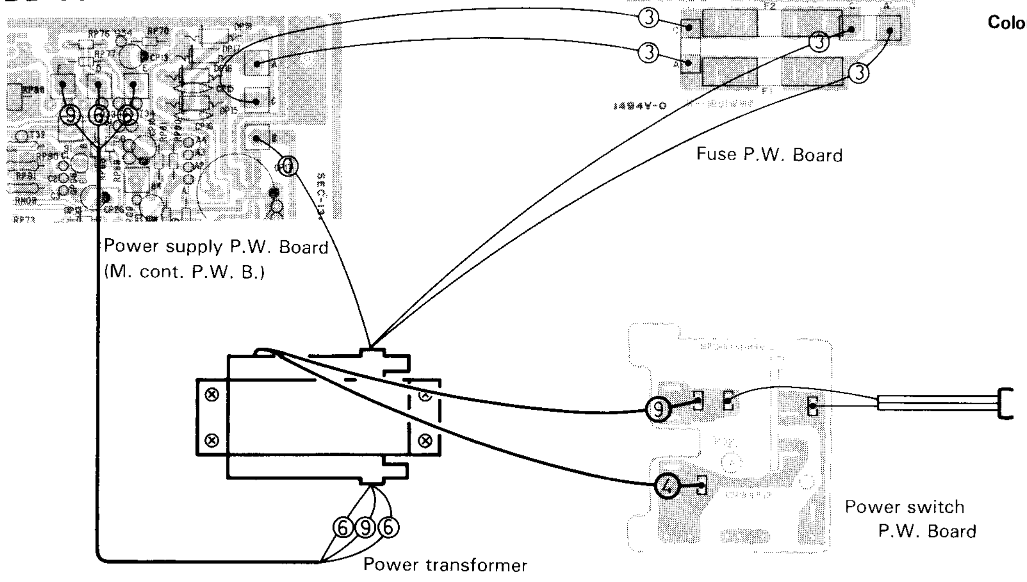
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
T01	VTP66T7-031B	Power Transformer	DD-V9A	1
〃	VTP66C7-041BBS	〃	DD-V9B	1
〃	VTP66A7-041B	〃	DD-V9C/J	1
〃	VTP66C7-041B	〃	DD-V9E	1
〃	VTP66U7-041B	〃	DD-V9U	1
S01	QSP1110-305	Power Switch	DD-V9A/E	1
〃	QSP1110-305BS	〃	DD-V9B	1
〃	QSP1110-306	〃	DD-V9U	1
〃	QSP1110-308	〃	DD-V9C/J	1
	QSS2325-203BS	Voltage Select Switch	DD-V9B	1
	QSS2325-203	〃	DD-V9E	1
	QSR0084-001	〃	DD-V9U	1
	QMP9017-008BS	Power Cord	DD-V9B	1
	QMP1200-200	〃	DD-V9C/J	1
	QMP7600-200	〃	DD-V9U	1
	QMP2560-200	〃	DD-V9A	1
	QMP3900-200	〃	DD-V9E	1
	QHS3876-162BS	Strain Relief	DD-V9B	1
	QHS3876-162	〃	DD-V9A/C/E/J/U	1
C01	QFZ9010-103	M.P. Capacitor	DD-V9A/B/E	1
〃	QCZ9014-103	C. Capacitor	DD-V9C/J	1
〃	QCZ9015-103	〃	DD-V9U	1
F1,F2	QMF51A2-1R6BS	Fuse	DD-V9B (1.6 A)	2
〃	〃 -1R6	〃	DD-V9A/E (1.6 A)	2
F01	QMF51C3-R80	〃	DD-V9U (800 mA)	1
	TAW000504-01	Connector	DD-V9U	1
	MC956B	Motor	Capstan DD. Motor	1
	MMN-6C2RK	〃	M. Drive Motor	1
	BFS7B13	〃	Reel Motor	1
ICP08	AN6531	IC		1
ICN02	μPC78L05	〃		1
OP05	2SD882	Transistor		1
OP07	〃	〃		1
Q811	2SD1153	〃		1
Q812	2SC1162	〃		1
QN01	2SD882	〃		1
DP15 ~18	10E2-B	Si. Diode		4
RN08	QRG019J-220	OMF Resistor	22 Ω 1 W	1
RP88	QRG029J-330	〃	33 Ω 2 W	1
RP90	QRD149J-470S	Fail Safe	47 Ω 1/4 W	1
RP91	QRD129J-2R2	〃	2.2Ω 1/2 W	1
R775	QRD149J-151S	〃	150 Ω 1/4 W	1
R917	QRD149J-4R7S	〃	4.7 Ω 〃	1
CP08	QET41AR-107M	Erectrolytic Capacitor	100 μF 10 V	1
CP14	QET41ER-228N	〃	2200 μF 25 V	1
CP15	QCF11HP-103	Ceramic Capacitor	0.01 μF 50 V	1
CP16	〃 -103	〃	〃	1
CP17	QET41HR-108N	Electrolytic Capacitor	1000 μF 50 V	1

Wiring Connection (1)

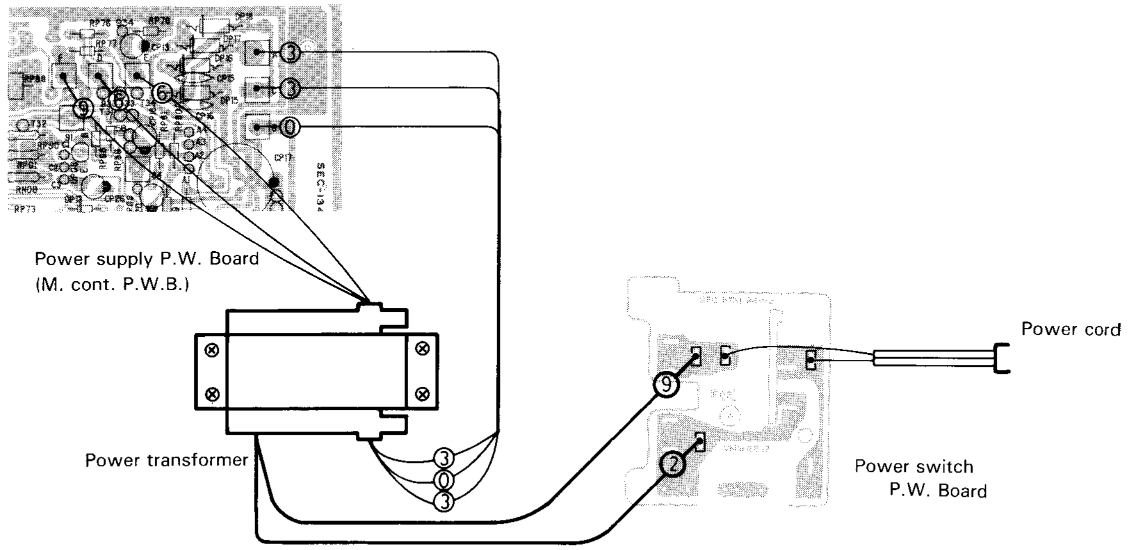
Color code are shown below

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Grey
9	White
0	Black

DD-V9 A


1
2
3
4
5
A
B
Fuse P.W. Board
Power supply P.W. Board
(M. cont. P.W. B.)
Power switch
P.W. Board
Power transformer
③
③
③
③
⑨
⑥
⑥
⓪
⑨
④
⑥⑨⑥

DD-V9 C/J


C
D
Power supply P.W. Board
(M. cont. P.W.B.)
Power cord
Power transformer
Power switch
P.W. Board
⑨
⑥
⑥
③
③
⓪
⑨
②
③
⓪
③

DD-V9 U

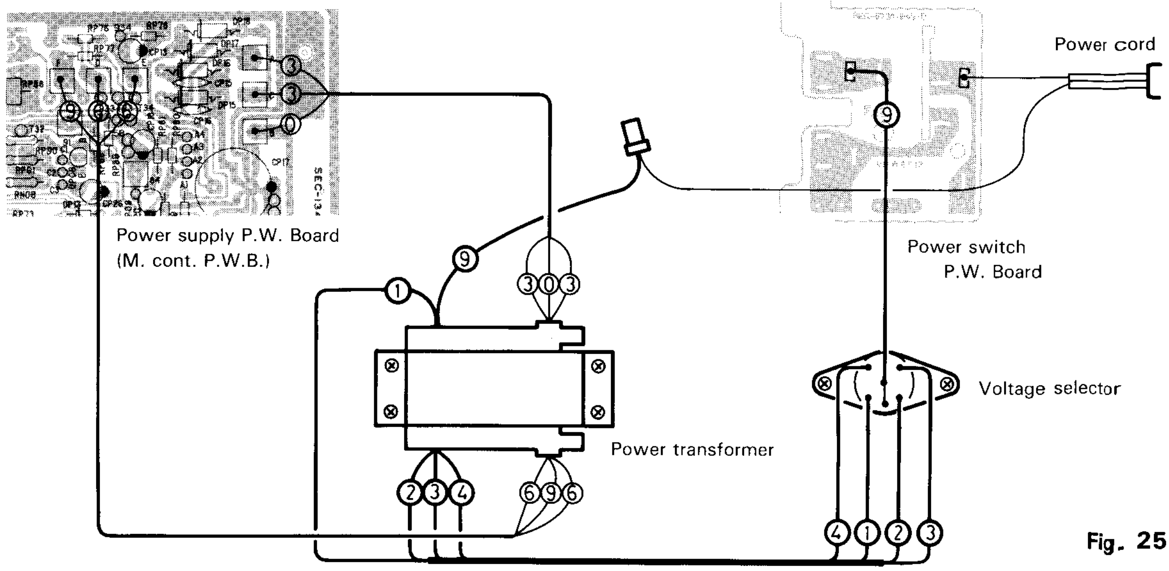

E
F
Power cord
Power supply P.W. Board
(M. cont. P.W.B.)
Power switch
P.W. Board
Voltage selector
Power transformer
⑨
⑥
⑥
③
③
⓪
⑨
⑨
①
③⓪③
②③④
⑥⑨⑥
④①②③

Fig. 25

Wiring Connection (2)

Color code are shown below

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Grey
9	White
0	Black
D	Pink
C	Light Blue

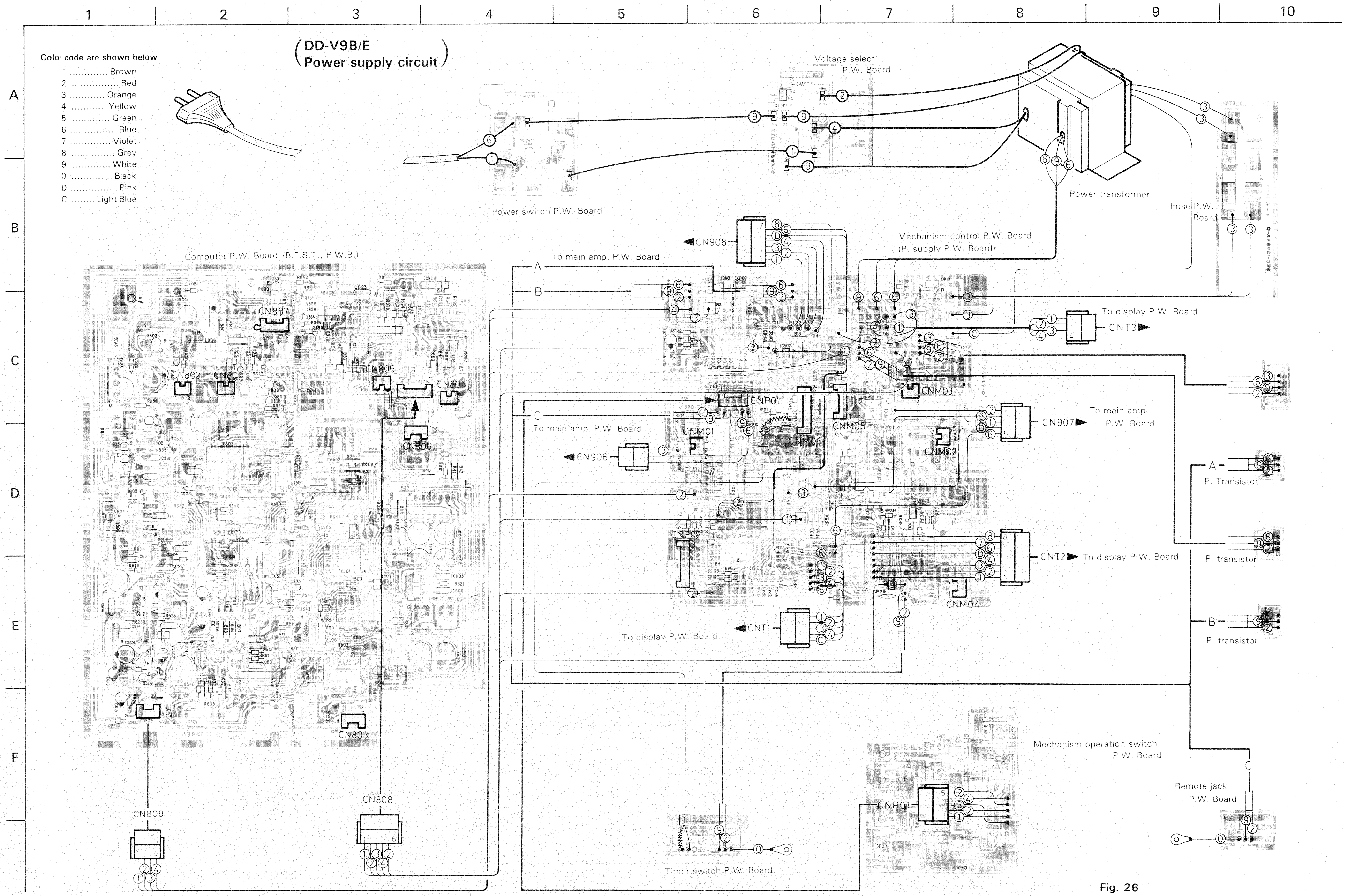
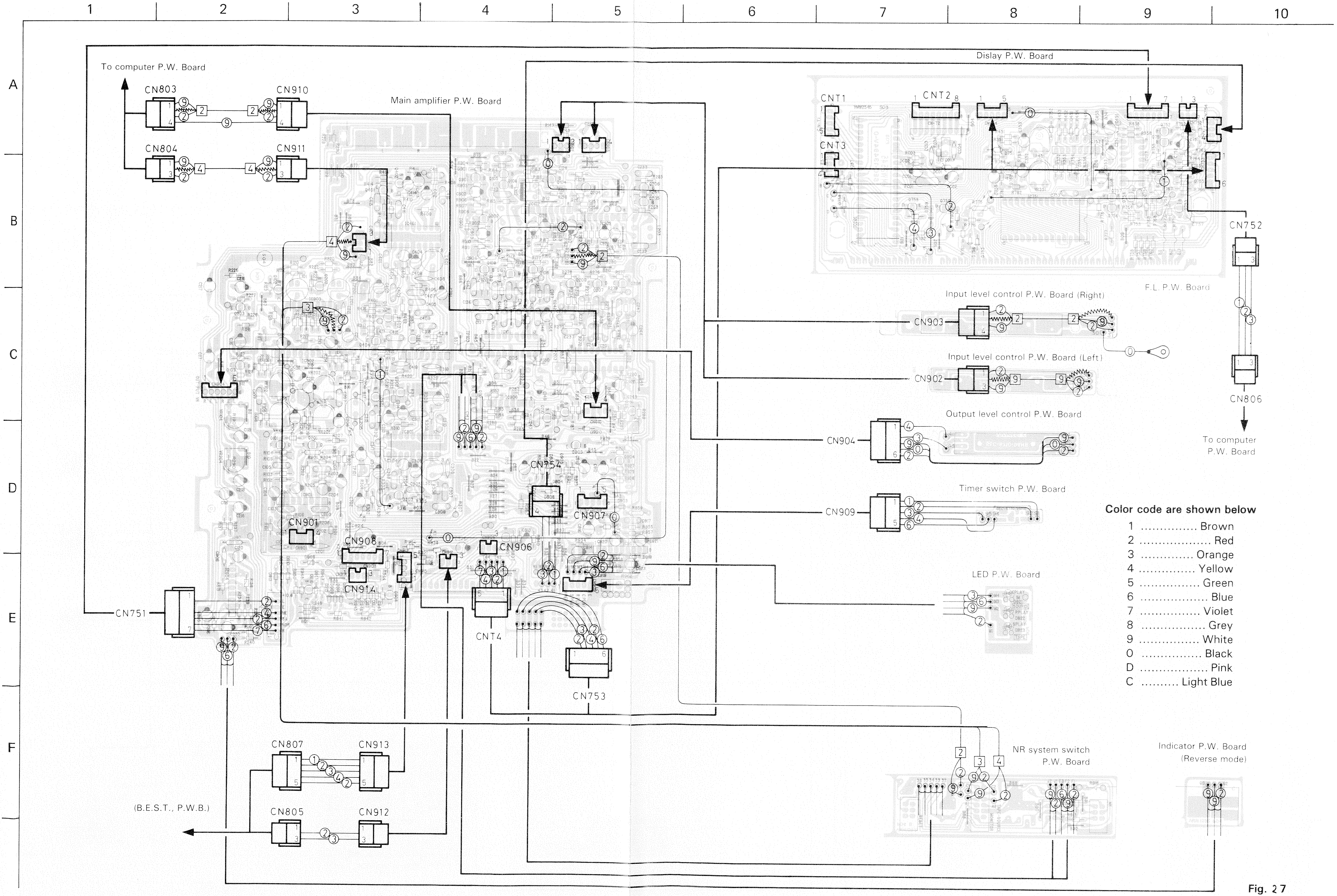

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
(DD-V9B/E Power supply circuit)
Voltage select P.W. Board
Power switch P.W. Board
Power transformer
Fuse P.W. Board
Mechanism control P.W. Board (P. supply P.W. Board)
Computer P.W. Board (B.E.S.T., P.W.B.)
To main amp. P.W. Board
To display P.W. Board
CNT3
CN908
CN807
CN802
CN801
CN805
CN804
CN806
CN803
CN809
CN808
CNP01
CNM01
CNM05
CNM06
CNM03
CNM02
CNM04
CNP02
CN906
CN907
To main amp. P.W. Board
CNT2
To display P.W. Board
CNT1
To display P.W. Board
P. Transistor
P. transistor
P. transistor
Mechanism operation switch P.W. Board
CNP01
Remote jack P.W. Board
Timer switch P.W. Board
A
B
C

Fig. 26

Wiring Connection (3)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
To computer P.W. Board
CN803
CN910
CN804
CN911
Main amplifier P.W. Board
Dislay P.W. Board
CNT1
CNT2
CNT3
F.L. P.W. Board
CN752
Input level control P.W. Board (Right)
CN903
Input level control P.W. Board (Left)
CN902
CN806
To computer P.W. Board
Output level control P.W. Board
CN904
Timer switch P.W. Board
CN909
CN754
CN907
CN901
CN908
CN906
CN914
CN751
CNT4
CN753
LED P.W. Board
NR system switch P.W. Board
Indicator P.W. Board (Reverse mode)
CN807
CN913
CN805
CN912
(B.E.S.T., P.W.B.)

Color code are shown below

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Grey
9	White
0	Black
D	Pink
C	Light Blue

Fig. 27

Wiring Connection (4)

Color code are shown below

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Grey
9	White
0	Black
D	Pink
C	Light Blue

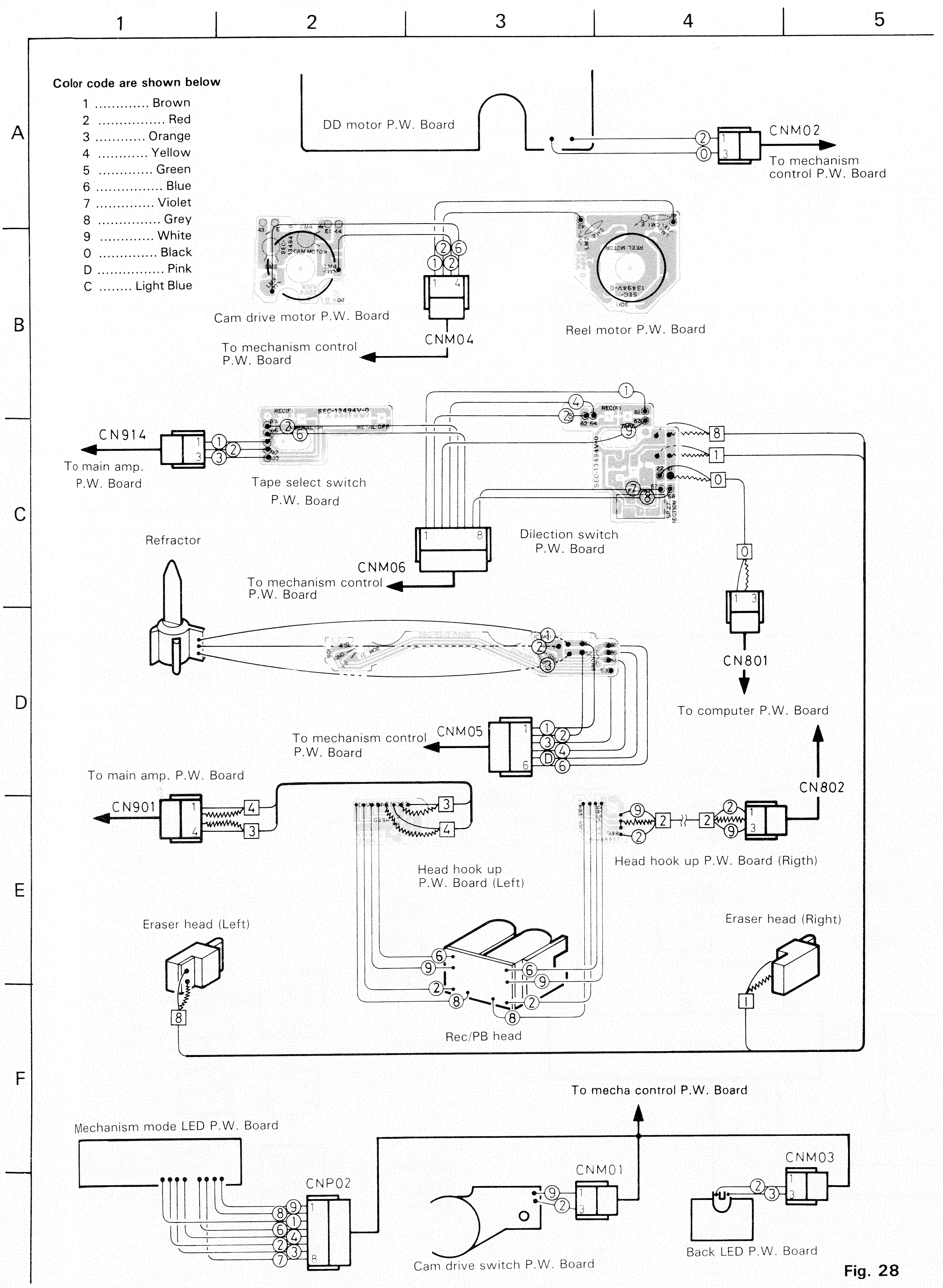
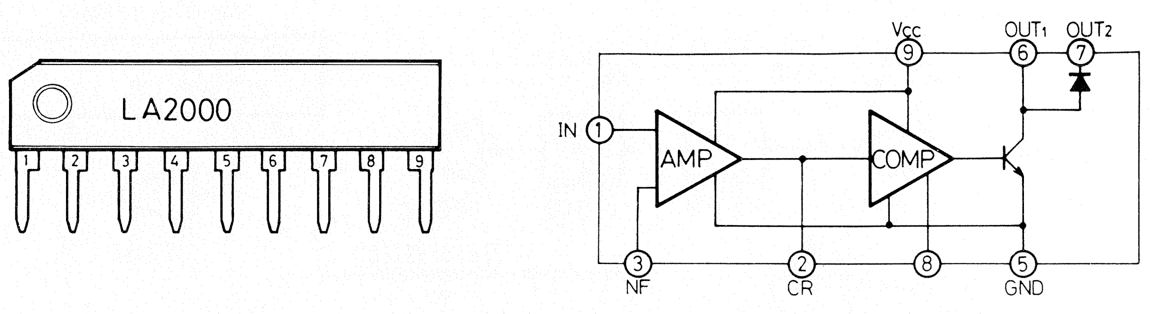

1
2
3
4
5
A
B
C
D
E
F
DD motor P.W. Board
CNM02
To mechanism control P.W. Board
Cam drive motor P.W. Board
CNM04
To mechanism control P.W. Board
Reel motor P.W. Board
CN914
To main amp. P.W. Board
Tape select switch P.W. Board
Dilection switch P.W. Board
CNM06
To mechanism control P.W. Board
Refractor
CN801
To computer P.W. Board
CNM05
To mechanism control P.W. Board
To main amp. P.W. Board
CN901
CN802
Head hook up P.W. Board (Left)
Head hook up P.W. Board (Rigth)
Eraser head (Left)
Eraser head (Right)
Rec/PB head
To mecha control P.W. Board
Mechanism mode LED P.W. Board
CNP02
CNM01
CNM03
Cam drive switch P.W. Board
Back LED P.W. Board

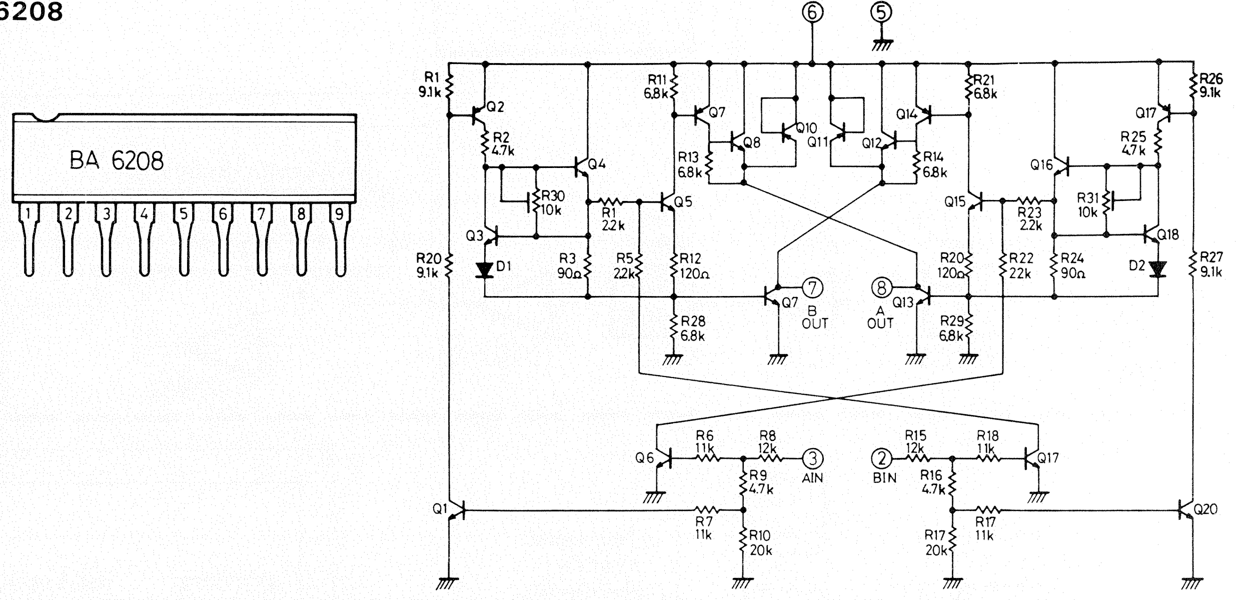
Fig. 28

Integrated Circuit

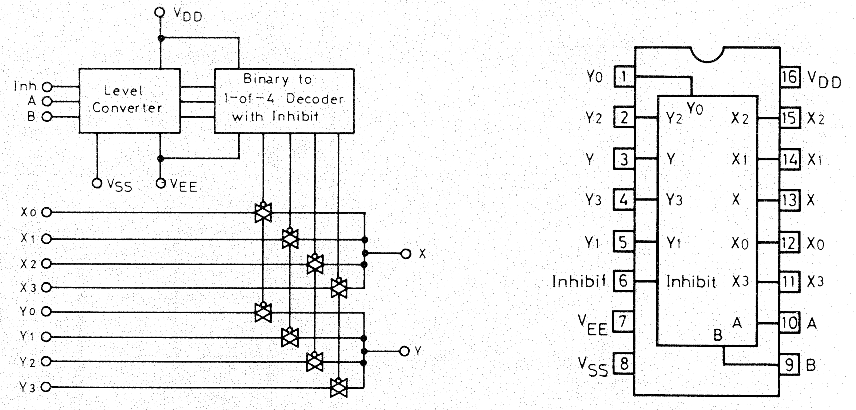
LA200


LA2000
1
2
3
4
5
6
7
8
9
Vcc
OUT1
OUT2
IN
AMP
COMP
NF
CR
GND

BA6208


BA 6208
1
2
3
4
5
6
7
8
9
Vcc
GND
R1 9.1k
R2 4.7k
R11 6.8k
R13 6.8k
R14 6.8k
R21 6.8k
R25 4.7k
R26 9.1k
R30 10k
R31 10k
R1 2.2k
R23 2.2k
R3 90Ω
R5 22k
R12 120Ω
R20 120Ω
R22 22k
R24 90Ω
R20 9.1k
R27 9.1k
R28 6.8k
R29 6.8k
D1
D2
B OUT
A OUT
R6 11k
R8 12k
R9 4.7k
AIN
BIN
R15 12k
R18 11k
R16 4.7k
R7 11k
R10 20k
R17 20k
R17 11k

HD14052B


VDD
Inh
A
B
Level Converter
Binary to 1-of-4 Decoder with Inhibit
VSS
VEE
X0
X1
X2
X3
Y0
Y1
Y2
Y3
X
Y
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Inhibit
VEE
VSS
VDD

Control Input			ON Switch	
Inhibit	Select			
	B	A	HD10452B	
0	0	0	Y_0	X_0
0	0	1	Y_1	X_1
0	1	0	Y_2	X_2
0	1	1	Y_3	X_3

Fig. 29

Block Diagram

Rec/PB Computer Circuit

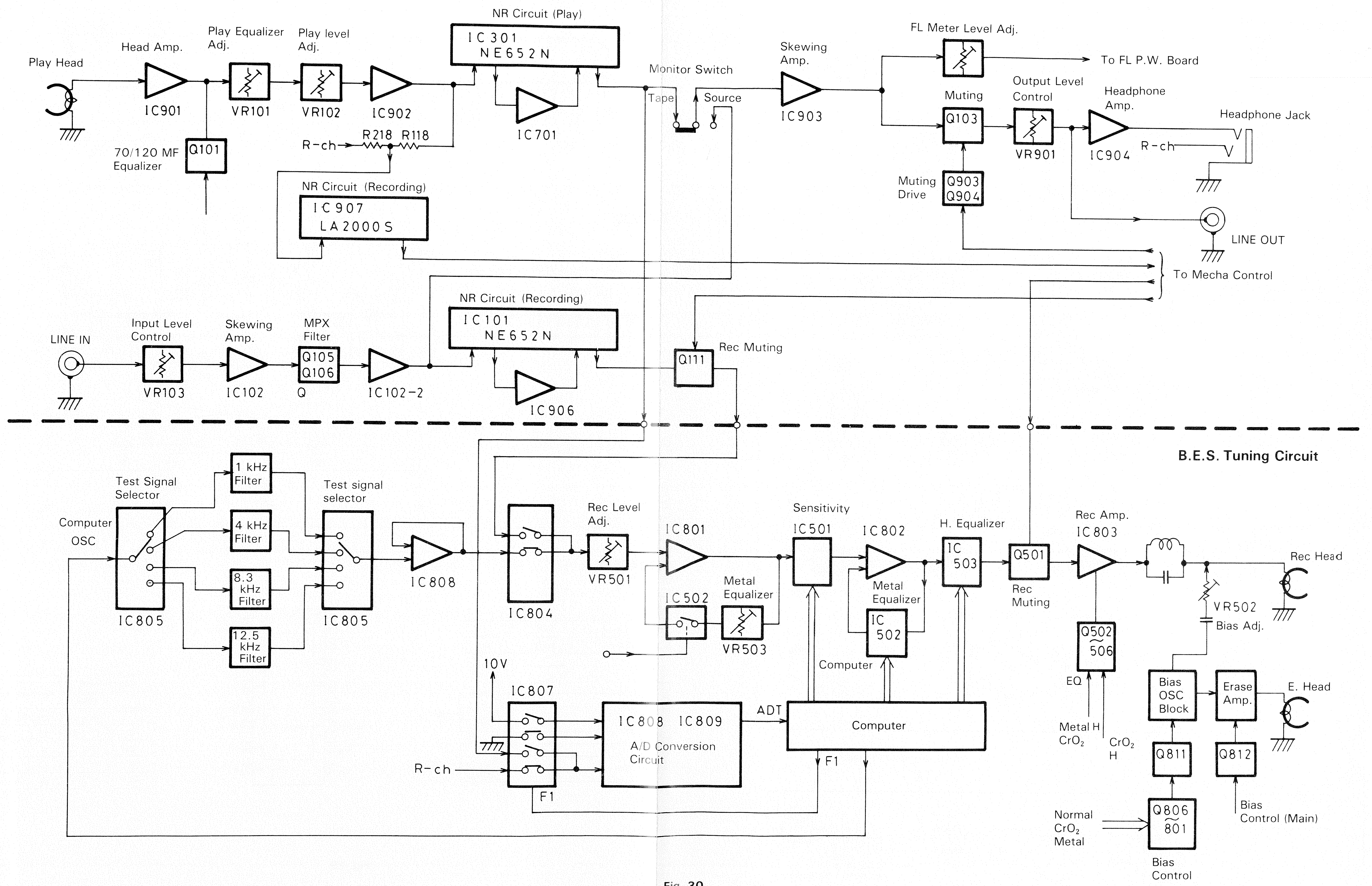
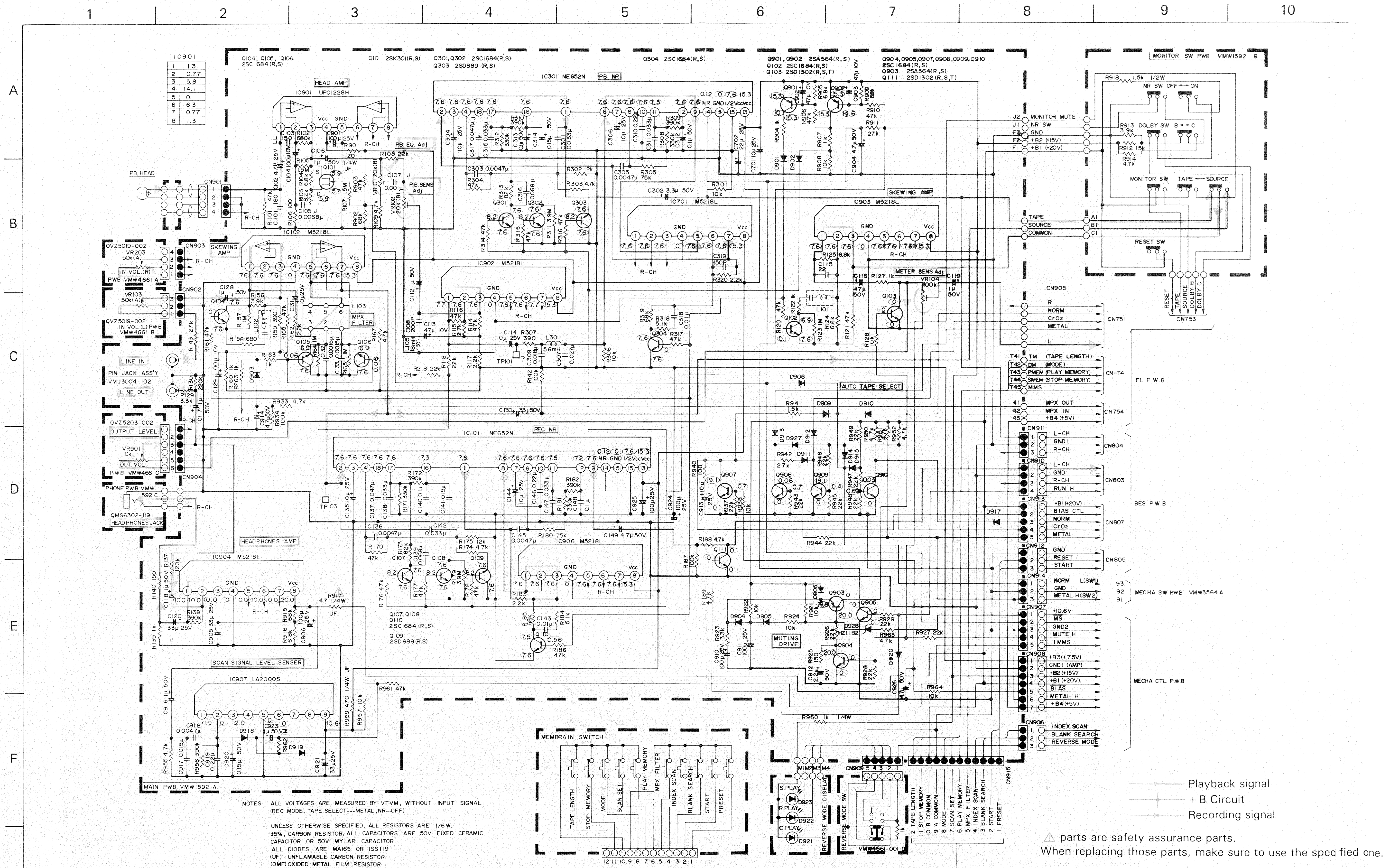

Play Head
Head Amp.
IC901
Play Equalizer Adj.
VR101
Play level Adj.
VR102
IC902
NR Circuit (Play)
IC301
NE652N
IC701
70/120 MF Equalizer
Q101
R-ch
R218
R118
NR Circuit (Recording)
IC907
LA2000S
Monitor Switch
Tape
Source
Skewing Amp.
IC903
FL Meter Level Adj.
To FL P.W. Board
Muting
Q103
Output Level Control
VR901
Headphone Amp.
IC904
Headphone Jack
R-ch
Muting Drive
Q903
Q904
LINE OUT
To Mecha Control
LINE IN
Input Level Control
VR103
Skewing Amp.
IC102
MPX Filter
Q105
Q106
Q
IC102-2
NR Circuit (Recording)
IC101
NE652N
IC906
Q111
Rec Muting
B.E.S. Tuning Circuit
Computer OSC
Test Signal Selector
IC805
1 kHz Filter
4 kHz Filter
8.3 kHz Filter
12.5 kHz Filter
Test signal selector
IC805
IC808
IC804
Rec Level Adj.
VR501
IC801
IC502
Metal Equalizer
VR503
Sensitivity
IC501
IC802
Metal Equalizer
IC 502
Computer
H. Equalizer
IC 503
Q501
Rec Muting
Rec Amp.
IC803
Q502 ~ 506
EQ
Metal H CrO₂
CrO₂ H
VR502
Bias Adj.
Rec Head
Bias OSC Block
Erase Amp.
E. Head
Q811
Q812
Q806 ~ 801
Bias Control
Bias Control (Main)
Normal CrO₂ Metal
10V
IC807
R-ch
F1
IC808 IC809
A/D Conversion Circuit
ADT
Computer
F1

Fig. 30

Standard Schematic Diagram DD-V9 A/B/C/E/J/U (Main Amp. Circuit)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
IC901
PB. HEAD
HEAD AMP
IC901 UPC1228H
PB. EQ Adj
PB SENS Adj
IC301 NE652N
PB NR
IC701 M5218L
IC903 M5218L
SKEWING AMP
IC902 M5218L
MPX FILTER
METER SENS Adj
AUTO TAPE SELECT
IC101 NE652N
REC NR
IC906 M5218L
HEADPHONES AMP
IC904 M5218L
SCAN SIGNAL LEVEL SENSER
IC907 LA2000S
MUTING DRIVE
MEMBRAIN SWITCH
MAIN PWB VMW1592 A
MONITOR SW PWB VMW1592 B
NR SW OFF — ON
DOLBY SW B — C
MONITOR SW TAPE — SOURCE
RESET SW
LINE IN
PIN JACK ASS'Y VMJ3004-102
LINE OUT
OUTPUT LEVEL
HEADPHONES JACK
FL P.W.B
BES P.W.B
MECHA SW PWB VMW3564 A
MECHA CTL P.W.B
CN751
CN-T4
CN754
CN804
CN803
CN807
CN805
CN753
CN906
CN915
TAPE LENGTH
STOP MEMORY
MODE
SCAN SET
PLAY MEMORY
MPX FILTER
INDEX SCAN
BLANK SEARCH
START
PRESET
REVERSE MODE DISPLAY
REVERSE MODE SW
VMW4661-001 D

NOTES ALL VOLTAGES ARE MEASURED BY VTVM, WITHOUT INPUT SIGNAL.
(REC MODE, TAPE SELECT---METAL, NR--OFF)

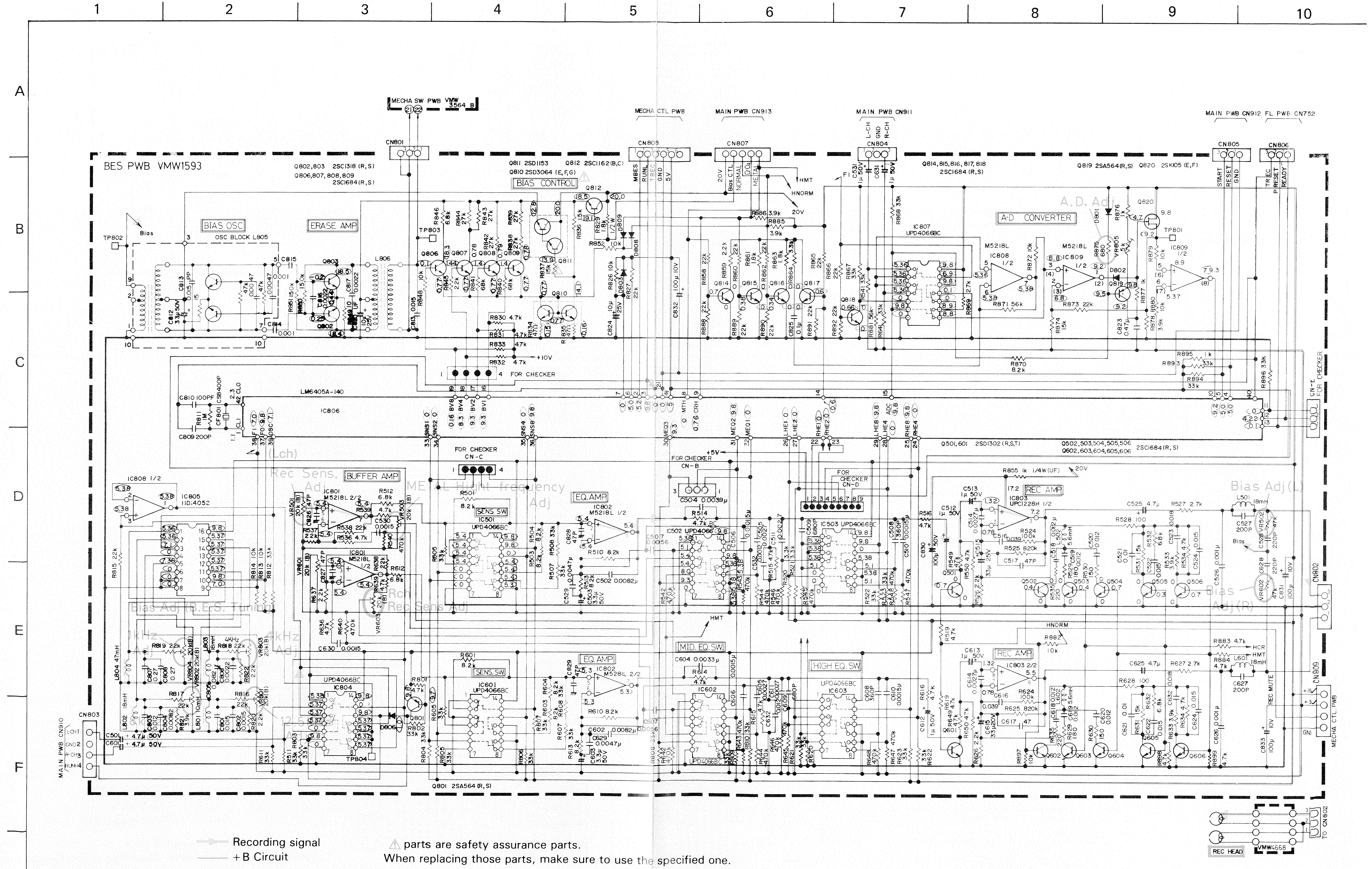
UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/6W, ±5%, CARBON RESISTOR, ALL CAPACITORS ARE 50V FIXED CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
ALL DIODES ARE MA165 OR 1SS119
(UF) UNFLAMABLE CARBON RESISTOR
(OMF) OXIDED METAL FILM RESISTOR
(PP) POLYPROPYLENE CAPACITOR
(LL) ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR

Playback signal
+B Circuit
Recording signal

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Fig. 31

Standard Schematic Diagram of DD-V9A/B/C/E/J/U (B.E.S.T. Tuning Circuit)

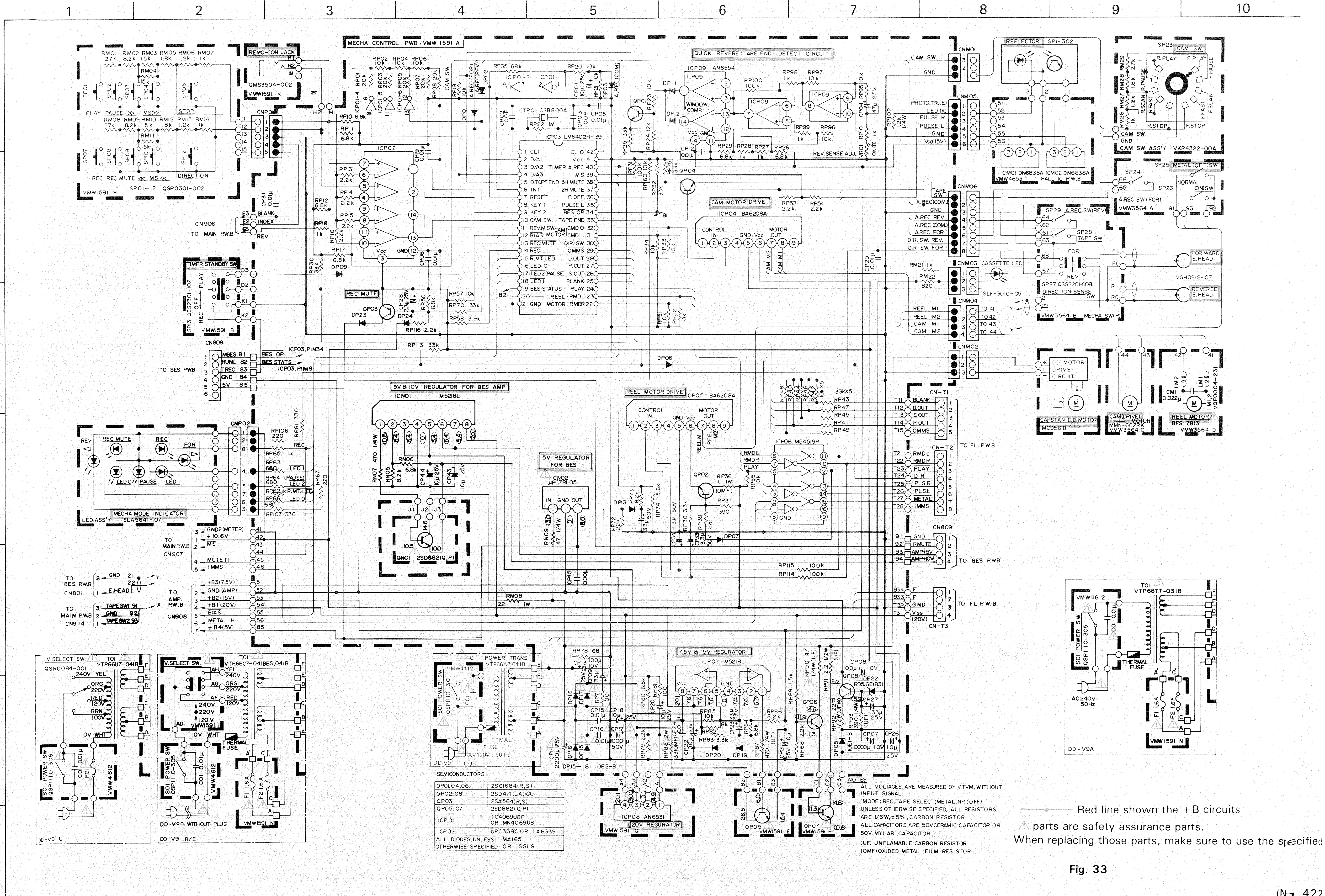

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
MECHA SW PWB VMW3564-B
CN801
MECHA CTL PWB
CN809
MAIN PWB CN913
CN807
MAIN PWB CN911
CN804
MAIN PWB CN912
FL PWB CN752
CN805
CN806
BES PWB VMW1593
Q802,803 2SC1318 (R,S)
Q806,807,808,809 2SC1684(R,S)
Q811 2SD1153
Q810 2SD3064 (E,F,G)
Q812 2SC1162(B,C)
BIAS CONTROL
Q814,815,816,817,818 2SC1684 (R,S)
Q819 2SA564(R,S)
Q820 2SK105 (E,F)
BIAS OSC
OSC BLOCK L805
ERASE AMP
TP802
TP803
TP801
A.D. Adj
A·D CONVERTER
IC807 UPD4066BC
IC808 M5218L 1/2
IC809 M5218L 1/2
IC809 1/2
FOR CHECKER
LM6405A-140
IC806
FOR CHECKER CN-C
CN-E FOR CHECKER
+5V
FOR CHECKER CN-B
FOR CHECKER CN-D
Q501,601 2SD1302 (R,S,T)
Q502,503,504,505,506 Q602,603,604,605,606 2SC1684 (R,S)
R855 1k 1/4W(UF)
20V
IC808 1/2
IC805 11D14052
(Lch) Rec Sens. Adj
BUFFER AMP
IC801 M5218L 2/2
IC801 M5218L 1/2
METAL Hight frequency Adj
EQ.AMP
IC802 M5218L 1/2
IC802 M5218L 2/2
SENS SW
IC501 UPD4066BC
IC601 UPD4066BC
IC502 UPD4066BC
IC503 UPD4066BC
IC602
IC603
IC803 UPC1228H 1/2
IC803 2/2
REC AMP
Bias Adj(L)
Bias Adj(R)
Rch Rec Sens Adj
Bias Adj (B.E.S.T. Tuning)
1kHz Adj
4KHz Adj
HMT
HNORM
MID. EQ. SW
HIGH EQ. SW
IC804 UPD4066BC
TP804
Q801 2SA564 (R,S)
CN803
MAIN PWB CN910
L-CH
GND
R-CH
RUN
CN802
CN809
MECHA CTL PWB
REC MUTE
HCR
REC HEAD
VMW4668
TO CN802

Recording signal
+B Circuit

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Fig. 32

Standard Schematic Diagram of DD-V9A/B/C/E/J/U (Mechanism Control Circuit)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
MECHA CONTROL PWB · VMW 1591 A
REMO-CON JACK
QMS3504-002
VMW1591 K
VMW1591 H
SP01-12 QSP0301-002
PLAY
PAUSE
STOP
REC
REC MUTE
DIRECTION
QUICK REVERE (TAPE END) DETECT CIRCUIT
ICP09 AN6554
ICP03 LM6402H-139
ICP02
CTP01 CSB800A
CAM MOTOR DRIVE
ICP04 BA6208A
REFLECTOR SP1-302
CAM SW
CAM SW ASS'Y VKR4322-00A
ICM01 DN6838A ICM02 DN6838A
VMW4653 HALL IC P.W.B
METAL (OFF) SW
A.REC SW (FOR)
VMW3564 A
A.REC SW (REV)
TAPE SW
FOR WARD E.HEAD
VGH0212-107
REVERSE E.HEAD
CASSETTE LED
SLF-301C-05
SP27 QSS2201-008
DIRECTION SENSE SW
VMW3564 B MECHA SW(R)
TIMER STANDBY SW
SP13 QSS2301-102
VMW1591 B
REC MUTE
CN906 TO MAIN P.W.B
TO BES PWB
CN808
DD MOTOR DRIVE CIRCUIT
CAPSTAN D.D.MOTOR MC956 B
CAM (DRIVE) MOTOR MMN-6C2RK VMW3564 C
REEL MOTOR BFS 7B13 VMW3564 D
VQP0004-231
5V & 10V REGULATOR FOR BES AMP
ICN01 M5218L
REEL MOTOR DRIVE
ICP05 BA6208A
ICP06 M54519P
TO FL. P.W.B
5V REGULATOR FOR BES
ICN02 μPC78L05
ICN01 2SD882(Q,P)
LED ASS'Y SLA5641-07
MECHA MODE INDICATOR
CNP02
TO MAIN P.W.B CN907
TO BES. P.W.B CN801
TO MAIN P.W.B CN914
TO AMP. P.W.B CN908
CN809
TO BES P.W.B
CN-T1
CN-T2
CN-T3
7.5V & 15V REGURATOR
ICP07 M5218L
V.SELECT SW
T01 VTP66U7-041B
QSR0084-001
S01 POWER SW QSP1110-306
VMW4612
DD-V9 U
V.SELECT SW.
T01 VTP66C7-041BBS,041B
THERMAL FUSE
DD-V9B WITHOUT PLUG
VMW1591 N
DD-V9 B/E
T01 POWER TRANS VTP66A7-041B
VMW4112
S01 POWER SW QSP1110-30
AV120V 60 Hz
DD-V9 C/J
ICP08 AN6531
20V REGURATOR
VMW1591 G
QP05
VMW1591 E
QP07
VMW1591 F
T01 VTP66T7-0318
S01 POWER SW. QSP1110-305
AC240V 50Hz
VMW1591 N
DD-V9A

SEMICONDUCTORS

QP01,04,06,	2SC1684(R,S)
QP02,08	2SD471(LA,KA)
QP03	2SA564(R,S)
QP05, 07	2SD882(Q,P)
ICP01	TC4069UBP OR MN4069UB
ICP02	UPC339C OR LA6339
ALL DIODES, UNLESS OTHERWISE SPECIFIED	MA165 OR ISS119

NOTES

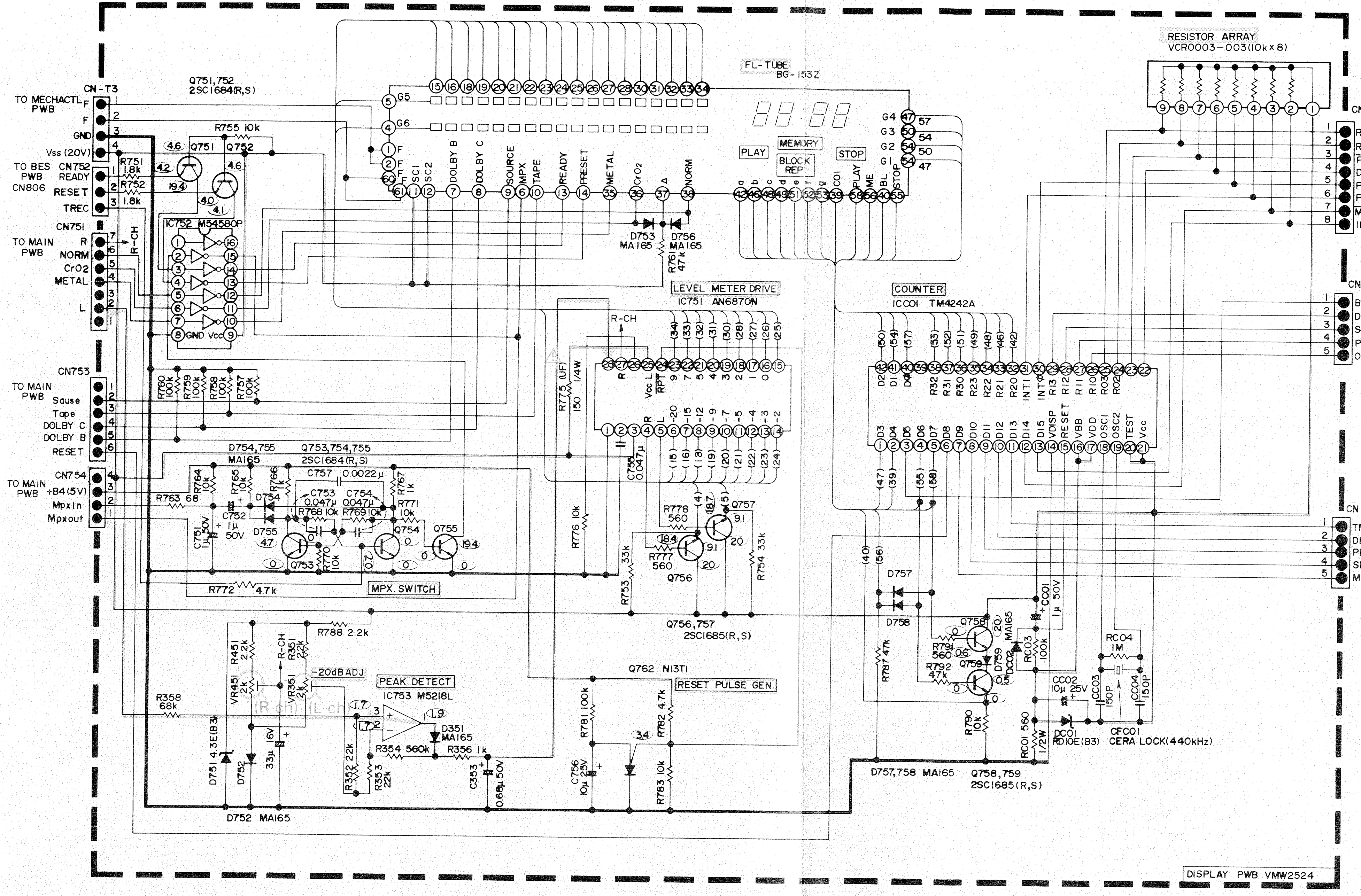
ALL VOLTAGES ARE MEASURED BY VTVM, WITHOUT INPUT SIGNAL.
(MODE; REC, TAPE SELECT; METAL, NR ; OFF)
UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 1/6W, ±5%, CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
(UF) UNFLAMABLE CARBON RESISTOR
(OMF) OXIDED METAL FILM RESISTOR

——●—— Red line shown the +B circuits

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Fig. 33

Standard Scamatic Diagram of DD-V9A/B/C/E/J/U (Display Circuit)


CN-T3
TO MECHACTL PWB
Vss (20V)
TO BES PWB CN806
CN752
READY
RESET
TREC
CN751
TO MAIN PWB
NORM
CrO2
METAL
CN753
Sause
Tape
DOLBY C
DOLBY B
RESET
CN754
+B4(5V)
Mpx in
Mpx out
Q751,752 2SC1684(R,S)
R755 10k
IC752 M54580P
FL-TUBE BG-153Z
PLAY
MEMORY
BLOCK REP
STOP
RESISTOR ARRAY VCR0003-003(10k×8)
CN-T2
RMDL
RMDR
PLAY
DIR
PLS.R
PLS.L
METAL
IMMS
TO MECHA CTL. PWB
CN-T1
BLANK
DOUT
SOUT
POUT
OMMS
D753 MA165
D756 MA165
LEVEL METER DRIVE
IC751 AN6870N
COUNTER
ICC01 TM4242A
D754,755 MA165
Q753,754,755 2SC1684(R,S)
MPX. SWITCH
Q756,757 2SC1685(R,S)
PEAK DETECT
IC753 M5218L
-20dB ADJ
Q762 N13T1
RESET PULSE GEN.
CN-T4
TM
DM
PMEM
SMEM
MMS
TO MAIN PWB
D757,758 MA165
Q758,759 2SC1685(R,S)
CFC01 CERA LOCK(440kHz)
D752 MA165
DISPLAY PWB VMW2524

IC Voltage List

IC752

1P	19.4V	10	19.4
2	19.4	11	0
3	19.4	12	0
4	4.1	13	19.4
5	19.4	14	0
6	19.4	15	0
7	0.7	16	0
8	0		
9	20.0		

IC751

1P	0 V	10	0.14	19	0.15	28	1.75
2	2.5	11	0.14	20	0.15		
3	20.0	12	0.14	21	0.15		
4	9.6	13	0.14	22	0.15		
5	9.6	14	0.14	23	0.15		
6	0.14	15	0.15	24	3.4		
7	0.14	16	0.15	25	16.8		
8	0.14	17	0.14	26	4.1		
9	0.14	18	0.15	27	1.7		

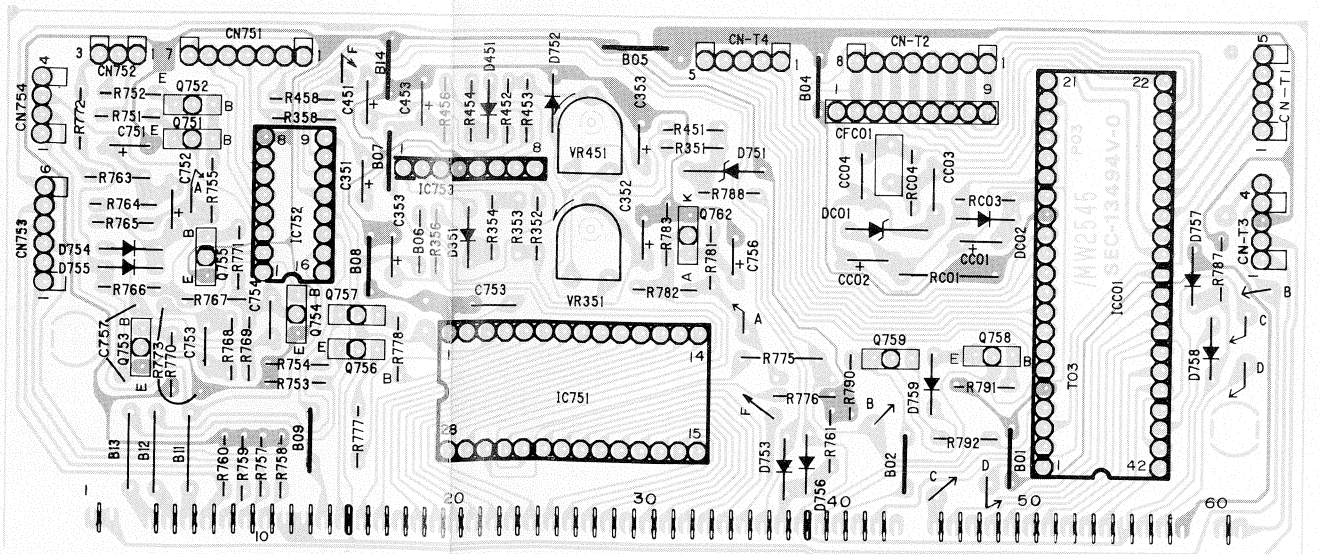
IC C01

1P	—V	10	0	19	17.6	28	0	37	19.9
2	0	11	0	20	20.0	29	0	38	5.1
3	0	12	0.6	21	20.0	30	200	39	0.05
4	0	13	20.0	22	20.0	31	200	40	0
5	0	14	0	23	0.7	32	15.0	41	—
6	0	15	9.8	24	0.6	33	19.9	42	—
7	0	16	9.9	25	0.7	34	19.9		
8	0	17	9.9	26	0	35	15.0		
9	0	18	17.0	27	0	36	19.9		

——— +B

Fig. 34

Display P.W. Board Parts (Display)


CN754
CN753
CN752
CN751
Q752
Q751
C751
IC752
IC753
VR451
VR351
IC751
CN-T4
CN-T2
CFC01
DC01
CC01
CC02
ICC01
Q759
Q758
D757
D758
CN-T3
CN-T1
B01
B02
B04
B05
B07
B08
B09
B11
B12
B13
B14
T03

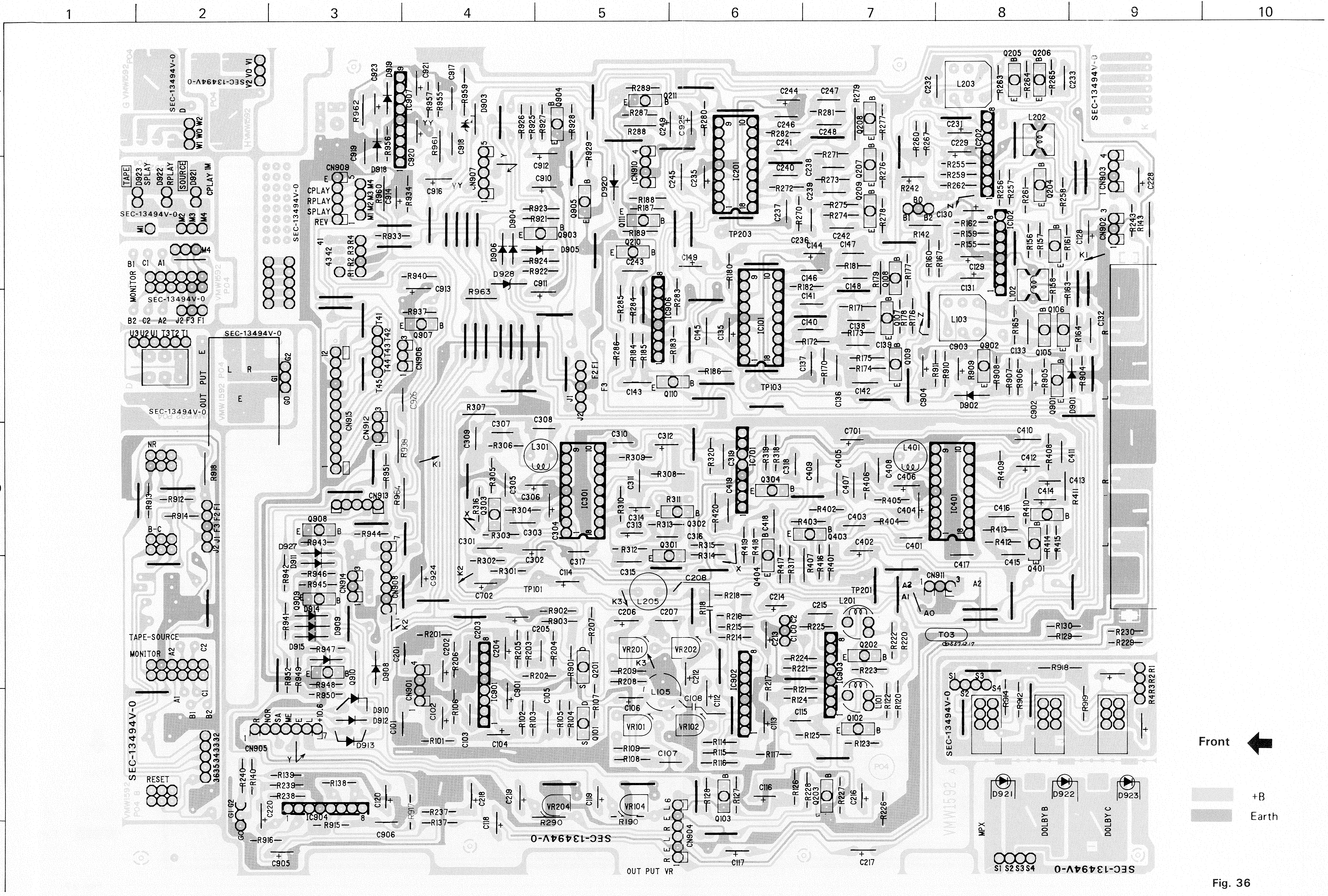
Front

▨ +B

▨ Earth

Fig. 35

Main P.W. Board


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
IC101
IC201
IC301
IC401
IC701
IC901
IC902
IC903
IC904
IC906
IC907
TP101
TP103
TP201
TP203
L101
L102
L103
L201
L202
L203
L205
L301
L401
VR101
VR102
VR104
VR201
VR202
VR204
TAPE
MONITOR
TAPE-SOURCE
RESET
OUT PUT VR
OUT PUT
MPX
DOLBY B
DOLBY C
D921
D922
D923
SEC-13494V-0

Front

🟩 +B

▨ Earth

Fig. 36

Computer P.W. Boarrd (B.E.S.T. Tuning)

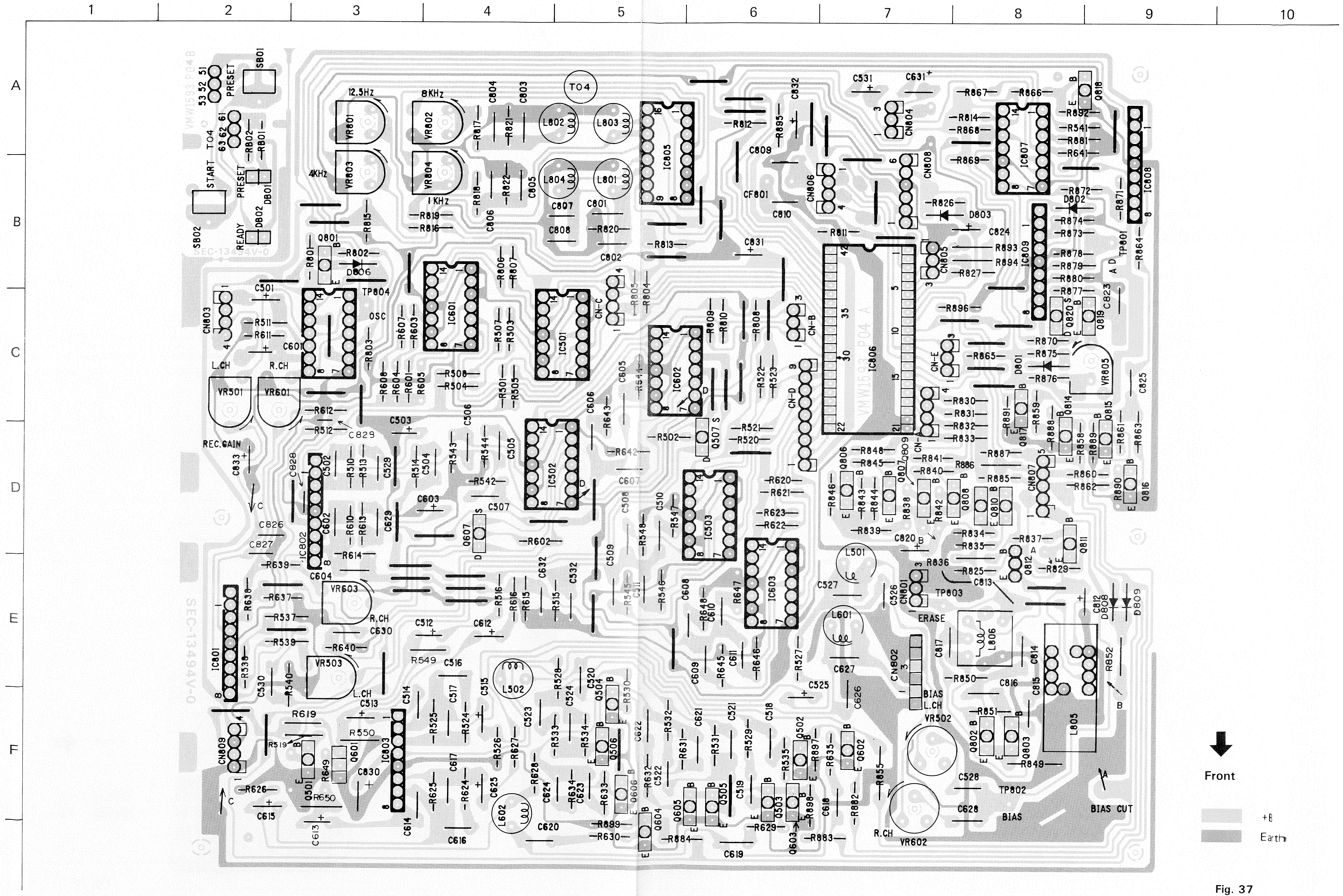
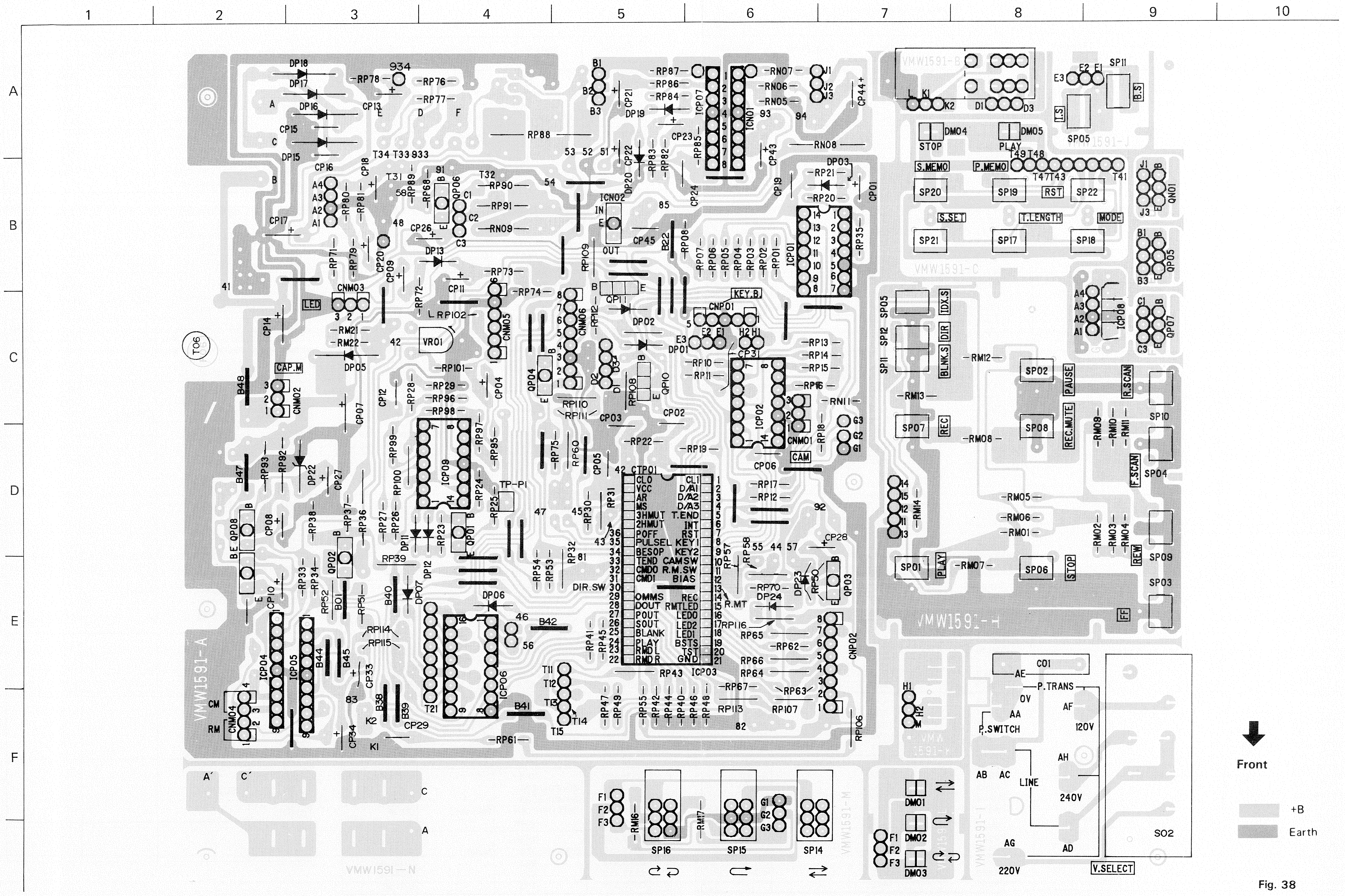

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
SB01
SB02
PRESET
START
READY
T04
12.5Hz
8KHz
4KHz
1KHz
VR801
VR802
VR803
VR804
L801
L802
L803
L804
IC805
IC806
IC807
IC808
IC809
IC601
IC501
IC602
IC502
IC503
IC603
IC801
IC802
IC803
CN803
CN804
CN805
CN806
CN807
CN808
CN809
CN801
CN802
CN-B
CN-C
CN-D
CN-E
CF801
TP801
TP802
TP803
TP804
OSC
L.CH
R.CH
VR501
VR601
VR603
VR503
VR502
VR602
VR805
REC.GAIN
L501
L502
L601
L602
L805
L806
ERASE
BIAS
BIAS CUT
D801
D802
D803
D806
D808
D809
VMW1593 P04 B
VMW1593 P04 A
SEC-13494V-0
Front
+B
Earth

Fig. 37

Mechanism Control P.W. Board


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
VMW1591-A
VMW1591-B
VMW1591-C
VMW1591-H
VMW1591-J
VMW1591-M
VMW1591-N
ICP01
ICP02
ICP03
ICP04
ICP05
ICP06
ICP07
ICP08
ICP09
ICN01
ICN02
CTP01
CLO
VCC
AR
MS
3HMUT
2HMUT
POFF
PULSEL
BESOP
TEND
CMDO
CMDI
OMMS
DOUT
POUT
SOUT
BLANK
PLAY
RMDL
RMDR
CL1
D/A1
D/A2
D/A3
T.END
INT
RST
KEY1
KEY2
CAMSW
R.M.SW
BIAS
REC
RMTLED
LED0
LED2
LED1
BSTS
TST
GND
CNM01
CNM02
CNM03
CNM04
CNM05
CNM06
CNP01
CNP02
QP01
QP02
QP03
QP04
QP05
QP06
QP07
QP08
QP10
QN01
QP11
VR01
TP-P1
DIR.SW
R.MT
LED
CAP.M
CAM
KEY.B
STOP
PLAY
S.MEMO
P.MEMO
RST
S.SET
T.LENGTH
MODE
IDX.S
DIR
BLNK.S
PAUSE
R.SCAN
REC
REC.MUTE
F.SCAN
REW
FF
SP01
SP02
SP03
SP04
SP05
SP06
SP07
SP08
SP09
SP10
SP11
SP12
SP14
SP15
SP16
SP17
SP18
SP19
SP20
SP21
SP22
DM01
DM02
DM03
DM04
DM05
C01
P.TRANS
P.SWITCH
LINE
V.SELECT
S02
0V
120V
240V
220V
AA
AB
AC
AD
AE
AF
AG
AH
CM
RM
T06
Front

+B

Earth

Fig. 38

Main Amp. P.W. Board Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
	VMW1592-104	P.W. Board	
(Resistors)			
R101,201	QRD161J-473	Carbon	47 kΩ 1/6 W
R102,202	″ -684	″	680 kΩ ″
R103,203	″ -822	″	8.2 kΩ ″
R104,204	″ -682	″	6.8 kΩ ″
R105,205	″ -155	″	1.5 MΩ ″
R106,206	″ -101	″	100 Ω ″
R107,207	″ -155	″	1.5 MΩ ″
R108,208	″ -223	″	22 kΩ ″
R109,209	″ -472	″	4.7 kΩ ″
R114,214	″ -473	″	47 kΩ ″
R115,215	″ -272	″	2.7 kΩ ″
R116,216	″ -473	″	47 kΩ ″
R117,217	″ -222	″	2.2 kΩ ″
R118,218	″ -223	″	22 kΩ ″
R120	″ -473	″	47 kΩ ″
R121,221	″ -473	″	″ ″
R122	″ -102	″	1 kΩ ″
R123,223	″ -105	″	1 MΩ ″
R124,224	″ -682	″	6.8 kΩ ″
R125,225	″ -682	″	″ ″
R127,227	″ -102	″	1 kΩ ″
R128,228	″ -103	″	10 kΩ ″
R129,229	″ -332	″	3.3 kΩ ″
R130,230	″ -224	″	220 kΩ ″
R137,237	″ -124	″	120 kΩ ″
R138,238	″ -394	″	390 kΩ ″
R139,239	″ -102	″	1 kΩ ″
R140,240	″ -151	″	150 Ω ″
R142,242	″ -104	″	100 kΩ ″
R143,243	″ -273	″	27 kΩ ″
R155,255	″ -473	″	47 kΩ ″
R156,256	″ -392	″	3.9 kΩ ″
R157,257	″ -105	″	1 MΩ ″
R158,258	″ -681	″	680 Ω ″
R159,259	″ -391	″	390 Ω ″
R160,260	″ -102	″	1 kΩ ″
R161,261	″ -473	″	47 kΩ ″
R162,262	″ -222	″	2.2 kΩ ″
R163	″ -102	″	1 kΩ ″
R164,264	QRD144J-105S	″	1 MΩ 1/4 W
R165	QRD161J-105	″	″ ″
R167,267	″ -472	″	4.7 kΩ ″
R170,270	″ -473	″	47 kΩ ″
R171,271	″ -334	″	330 kΩ ″
R172,272	″ -394	″	390 kΩ ″
R173,273	″ -823	″	82 kΩ ″
R174,274	″ -472	″	4.7 kΩ ″
R175,275	″ -123	″	12 kΩ ″
R176,276	″ -473	″	47 kΩ ″
R177,277	″ -473	″	″ ″
R178,278	″ -473	″	″ ″
R179,279	QRD144J-395S	″	3.9 MΩ ″
R180,280	QRD161J-753	″	75 kΩ ″
R181,281	″ -334	″	330 kΩ ″
R182,282	″ -394	″	390 kΩ ″
R183,283	″ -222	″	2.2 kΩ ″
R184,284	″ -512	″	5.1 kΩ ″
R185,285	″ -683	″	68 kΩ ″
R186,286	″ -473	″	47 kΩ ″
R187,287	″ -104	″	100 kΩ ″
R188,288	″ -472	″	4.7 kΩ ″
R189,289	″ -472	″	″ ″
R220	QRD144J-473S	″	47 kΩ ″
R222	″ -102S	″	1 kΩ ″
R263	QRD161J-102S	Carbon	1 kΩ 1/4 W
R265	″ -105S	″	1 MΩ ″
R301	″ -104S	″	100 kΩ ″
R302,402	″ -123	″	12 kΩ 1/6 W
R303,403	″ -472	″	4.7 kΩ ″
R304,404	″ -473	″	47 kΩ ″
R305,405	″ -753	″	75 kΩ ″
R306,406	″ -103	″	10 kΩ ″
R307,407	″ -391	″	390 Ω ″
R308,408	″ -334	″	330 kΩ ″
R309,409	″ -394	″	390 kΩ ″
R310,410	″ -394	″	″ ″
R311,411	QRD144J-395S	″	3.9 MΩ ″
R312,412	QRD161J-334	″	330 kΩ ″
R313,413	″ -823	″	82 kΩ ″
R314,414	″ -473	″	47 kΩ ″
R315,415	″ -473	″	″ ″
R316,416	″ -473	″	″ ″
R317,417	″ -473	″	″ ″
R318,418	″ -512	″	5.1 kΩ ″
R319,419	″ -683	″	68 kΩ ″
R320,420	″ -222	″	2.2 kΩ ″
R401	″ -104	″	100 kΩ ″
R901	QRD149J-471S	Fail Safety	470 Ω 1/4 W
R902	QRD161J-683	Carbon	68 kΩ 1/6 W
R903	″ -473	″	47 kΩ ″
R904	″ -102	″	1 kΩ ″
R905	″ -682	″	6.8 kΩ ″
R906	″ -473	″	47 kΩ ″
R907	″ -102	″	1 kΩ ″
R908	″ -103	″	10 kΩ ″
R909	″ -682	″	6.8 kΩ ″
R910	″ -473	″	47 kΩ ″
R911	″ -273	″	27 kΩ ″
R912	″ -153	″	15 kΩ ″
R913	″ -392	″	3.9 kΩ ″
R914	″ -472	″	4.7 kΩ ″
R915	″ -683	″	68 kΩ ″
R916	″ -683	″	″ ″
R917 ⚠	QRD149J-4R7S	Fail Safety	4.7 Ω 1/4 W
R918	QRD123J-152	Carbon	1.5 kΩ 1/2 W
R921	QRD161J-103	″	10 kΩ 1/6 W
R922	″ -103	″	″ ″
R923	″ -332	″	3.3 kΩ ″
R924	″ -103	″	10 kΩ ″
R925	″ -151	″	150 Ω ″
R926	″ -223	″	22 kΩ ″
R927	″ -223	″	″ ″
R928	″ -223	″	″ ″
R929	″ -223	″	″ ″
R933	″ -472	″	4.7 kΩ ″
R934	″ -104	″	100 kΩ ″
R937	″ -223	″	22 kΩ ″
R938	″ -103	″	10 kΩ ″
R940	″ -101	″	100 Ω ″
R941	″ -152	″	1.5 kΩ ″
R942	″ -272	″	2.7 kΩ ″
R943	″ -223	″	22 kΩ ″
R944	″ -223	″	″ ″
R945	″ -223	″	″ ″
R946	″ -223	″	″ ″
R947	″ -223	″	″ ″
R948	″ -223	″	″ ″
R949	″ -223	″	″ ″
R950	″ -472	″	4.7 kΩ ″
R951	″ -472	″	″ ″
R952	QRD161J-472	Carbon	10 kΩ 1/4 W
R955	″ -472	″	4.7 kΩ ″
R956	″ -394	″	390 kΩ ″
R957	″ -103	″	10 kΩ ″
R959	QRD149J-471S	Fail Safety	470 Ω 1/4 W
R960	QRD144J-102S	Carbon	1 kΩ ″
R961	QRD161J-473	″	47 kΩ 1/6 W
R962	″ -105	″	1 MΩ ″
R963	″ -472	″	4.7 kΩ ″
R964	″ -103	″	10 kΩ ″
(Capacitors)			
C101,201	QCS11HJ-181	Ceramic	180 pF 50 V
C102,202	QEB41EM-475	Electrolytic	4.7 μF 25 V
C103,203	QCS11HJ-151	Ceramic	150 pF 50 V
C104,204	QET41AR-107	Electrolytic	100 μF 10 V
C105,205	QFN41HJ-682	Mylar	0.0068μF 50 V
C106,206	QET41HR-105	Electrolytic	1 μF ″
C107,207	QFN41HJ-102	Mylar	0.001μF ″
C108,208	QCS11HJ-201	Ceramic	200 pF ″
C112,212	QET41HR-105	Electrolytic	1 μF ″
C113,213	QET41AR-476	″	47 μF 10 V
C114,214	QET41ER-106	″	10 μF 25 V
C115,215	QCS11HJ-220	Ceramic	22 pF 50 V
C116,216	QET41HR-475	Electrolytic	4.7 μF ″
C117,217	″ -105	″	1 μF ″
C118,218	″ -105	″	″ ″
C119,219	″ -105	″	″ ″
C120,220	QET41ER-336	″	33 μF 25 V
C128,228	QET41HR-105	″	1 μF 50 V
C129,229	QET41AR-107	″	100 μF 10 V
C130,230	QET41HR-335	″	3.3 μF 50 V
C131,231	QET41ER-106N	″	10 μF 25 V
C132,232	QFN41HJ-152	Mylar	0.0015μU 50 V
C133,233	″ -152	″	″ ″
C135,235	QET41ER-106	Electrolytic	10 μF 25 V
C136,236	QFN41HJ-472	Mylar	0.0047μF 50 V
C137,237	″ -473	″	0.047μF ″
C138,238	″ -333	″	0.033μF ″
C139,239	″ -683	″	0.068μF ″
C140,240	″ -104	″	0.1 μF ″
C141,241	″ -154	″	0.15 μF ″
C142,242	″ -333	″	0.033μF ″
C143,243	″ -103	″	0.01 μF ″
C144,244	QET41ER-106	Electrolytic	10 μF 25 V
C145,245	QFN41HJ-472	Mylar	0.0047μF 50 V
C146,246	QFV41HJ-224	″	0.22 μF ″
C147,247	QFN41HJ-333	″	0.033μF ″
C148,248	QFN41HJ-104	″	0.1 μF ″
C149,249	QET41HR-475	″	4.7 μF ″
C301,401	QFN41HJ-333	″	0.033μF ″
C302,402	QET41HR-335	Electrolytic	3.3 μF ″
C303,403	QFN41HJ-472	Mylar	0.0047μF ″
C304,404	QET41ER-106N	Electrolytic	10 μF 25 V
C305,405	QFN41HJ-472	Mylar	0.0047μF 50 V
C306,406	QET41ER-106	Electrolytic	10 μF 25 V
C307,407	QFN41HJ-273	Mylar	0.027μF 50 V
C309,409	″ -183	″	0.018μF ″
C310,410	QFV41HJ-224	″	0.22 μF ″
C311,411	QFN41HJ-333	″	0.033μF ″
C312,412	QET41HR-104N	Electrolytic	0.1 μF ″
C313,413	″ -104N	″	″ ″
C314,414	″ -154N	″	0.15 μF ″
C315,415	QFN41HJ-333	Mylar	0.033μF ″
C316,416	″ -683	″	0.068μF ″
C317,417	″ -473	″	0.047 μF ″
C318,418	″ -103	″	0.01 μF ″
C319,419	QCS11HJ-151	Ceramic	150 pF 50 V
C701	QET41ER-106	Electrolytic	10 pF 25 V
C702	QET41ER-226	Electrolytic	22 μF ″
C901	QET41ER-107	″	100 μF ″
C902	QET41AR-476	″	47 μF 10 V
C903	″ -476	″	″ ″
C904	QET41HR-475	″	4.7 μF 50 V
C905	QET41ER-335	″	3.3 μF 25 V
C906	QET41ER-107N	″	100 μF ″
C910	QET41ER-107	″	″ ″
C911	″ -107	″	″ ″
C912	QET41HR-225	″	2.2 μF 50 V
C913	″ -106	″	10 μF ″
C914	QET41HR-475	″	4.7 μF ″
C916	QET41HR-105	″	1 μF ″
C917	QFN41HJ-153	Mylar	0.015μF ″
C918	″ -472	″	0.0047μF ″
C919	QFV41HJ-224	Mylar	0.22 μF ″
C920	QET41HR-154N	Electrolytic	0.15 μF ″
C921	QET41ER-336	″	33 μF 25 V
C923	QET41HR-105	″	1 μF 50 V
C924	QET41ER-107N	″	100 μF 25 V
C925	QET41ER-107N	″	″ ″
C926	QET41HR-475	″	4.7 μF 50 V
C927	QET41HR-475	″	″ ″
C928	QET41ER-106	″	10 μF 25 V
C930	″ -336	″	33 μF ″
C936	QCF11HP-103	Ceramic	0.01 μF 50 V
(IC)			
IC101,201	NE652N	IC	
IC102,202	M5218L	″	
IC301,401	NE652N	″	
IC701	M5218L	″	
IC901	UPC1228H	″	
IC902	M5218L	″	
IC903	″	″	
IC904	″	″	
IC906	″	″	
IC907	LA2000S	″	
(Transistor)			
Q101,201	2SK301	F.E.	
Q102,202	2SC1684	Silicon	
Q103,203	2SD1302	″	
Q104,204	2SC1684	″	
Q105,205	″	″	
Q106,206	″	″	
Q107,207	″	″	
Q108,208	″	″	
Q109,209	2SD889	″	
Q110,210	2SC1684	″	
Q111,211	2SD1302	″	
Q301,401	2SC1684	″	
Q302,402	″	″	
Q303,403	2SD889	″	
Q901	2SA564	″	
Q902	″	″	
Q903	″	″	
Q904	2SC1684	″	
Q905	″	″	
Q907	″	″	
Q908	″	″	
Q909	″	″	
Q910	″	″	

Ref. No.	Parts No.	Parts Name	Remarks
(Diode)			
D901 ~ 906	1SS119	Silicon	or MA165
908 ~ 915			
917 ~ 920			
D921 ~ 923	SLP-170C	LED	
D927	1SS119	Silicon	or MA165
D928	HZ11B2	Zener	
(Other)			
L101,201	VQZ0013-001	Filter	Skew
L102,202	″ -002S	″	Skew Adj.
L103,203	VQZ0016-101	″	LPF
L105,205	VQP0001-183S	Inductor	
L301,401	″ -562S	″	
VR101,201	QVP8A0B-024	V. Resistor	20 kΩ
VR102,202	″ -024	″	″
VR103,203	QVZ5019-002	″	INPUT
VR104,204	QVP8A0B-015	″	100 kΩ
VR901	QVZ5203-002	V. Resistor	OUTPUT
	QSS2301-009	Slide Sw.	for REV MODE
CN901	QMV5005-004	Connector	
CN902	″ -003	″	
CN903	″ -004	″	
CN904	″ -006	″	
CN906	″ -003	″	
CN907	″ -005	″	
CN908	″ -007	″	
CN909	″ -005	″	
CN910	″ -004	″	
CN911	″ -003	″	
CN912	″ -003	″	
CN914	″ -003	″	
CN915	VMC0010-012	FPC Socket	
	QMS6302-119	Jack Ass'y	for H.P
	VMJ3004-102	″	for PIN
	QST5461-V01	Push Switch	
	VMA4142-001	Shield Plate	
	QMF51A2-1R6	Fuse	DD-V9A

Computer P.W. Board Ass'y Parts List (B.E.S. Tuning)

Ref. No.	Parts No.	Parts Name	Remarks
(Resistors)			
R501,601	QRD161J-822	Carbon	8.2 kΩ 1/6 W
R503,603	″ -822	″	″ ″
R504,604	″ -822	″	″ ″
R505,605	″ -333	″	33 kΩ ″
R507,607	″ -333	″	″ ″
R508,608	″ -333	″	″ ″
R510,610	″ -822	″	8.2 kΩ ″
R511,611	″ -333	″	33 kΩ ″
R512,612	″ -682	″	6.8 kΩ ″
R513,613	″ -822	″	8.2 kΩ ″
R514,614	″ -472	″	4.7 kΩ ″
R515,615	″ -472	″	″ ″
R516,616	″ -472	″	″ ″
R519,619	″ -472	″	″ ″
R520,620	″ -333	″	33 kΩ ″
R521,621	″ -333	″	″ ″
R522,622	″ -333	″	″ ″
R523,623	″ -333	″	″ ″
R524,624	″ -104	″	100 kΩ ″
R525,625	″ -824	″	820 kΩ ″
R526,626	″ -222	″	2.2 kΩ ″
R527,627	″ -272	″	2.7 kΩ ″
R528,628	″ -101	″	100 Ω ″
R529,629	″ -181	″	180 Ω ″
R530,630	″ -151	″	150 Ω ″
R531,631	″ -153	″	15 kΩ ″
R532,632	″ -682	″	6.8 kΩ ″
R533,633	″ -392	″	3.9 kΩ ″
R534,634	″ -472	″	4.7 kΩ ″
R535,635	″ -221	″	220 Ω ″
R536,636	″ -472	″	4.7 kΩ ″
R537,637	″ -223	″	22 kΩ ″
R538,638	″ -223	″	″ ″
R539,639	″ -472	″	4.7 kΩ ″
R540,640	″ -474	″	470 kΩ ″
R541,641	″ -333	″	33 kΩ ″
R542 ~ 548	″ -474	″	470 kΩ ″
642 ~ 648			
R549,649	″ -473	″	4.7 kΩ ″
R550	QRD144J-472	″	″ 1/4 W
R650	QRD161J-472	″	″ 1/6 W
R801	″ -472	″	″ ″
R802 ~ 810	″ -333	″	30 kΩ ″
R811	″ -105	″	1 MΩ ″
R812	″ -333	″	33 kΩ ″
R813	″ -103	″	10 kΩ ″
R814	″ -103	″	″ ″
R815 ~ 819	″ -223	″	22 kΩ ″
R820	″ -222	″	2.2 kΩ ″
R821	″ -392	″	3.9 kΩ ″
R822	″ -222	″	2.2 kΩ ″
R826	″ -103		10 kΩ ″
R827	″ -223		22 kΩ ″
R829	QRD121J-182		1.8 kΩ 1/2 W
R830 ~ 833	QRD161J-472	″	4.7 kΩ 1/6 W
R834	″ -470	″	47 Ω ″
R835	″ -470	″	″ ″
R836	″ -152	″	1.5 kΩ 1/4 W
R837	″ -153	″	15 kΩ 1/6 W
R838	″ -273	″	27 kΩ ″
R839	″ -273	″	″ ″
R840	″ -683	″	68 kΩ ″
R841	″ -683	″	″ ″
R842	″ -273	″	27 kΩ ″
R843	″ -273	″	″ ″

Ref. No.	Parts No.	Parts Name	Remarks
R844	QRD161J-273	Carbon	27 kΩ 1/6 W
R845	″ -223	″	22 kΩ ″
R846	″ -682	″	6.8 kΩ ″
R848	″ -103	″	10 kΩ ″
R849	QRD149J-100S	Fail Safety	10 Ω 1/4 W
R850	QRD161J-154	Carbon	150 kΩ 1/6 W
R851	″ -154	″	″ ″
R852	″ -103	″	10 kΩ ″
R855	QRD149J-102S	Fail Safety	1 kΩ 1/4 W
R858	QRD161J-223	Carbon	22 kΩ 1/6 W
R859	″ -222	″	2.2 kΩ ″
R860	″ -223	″	22 kΩ ″
R861	″ -182	″	1.8 kΩ ″
R862	″ -223	″	22 kΩ ″
R863	″ -182	″	1.8 kΩ ″
R864	″ -332	″	3.3 kΩ ″
R865	″ -223	″	22 kΩ ″
R866	″ -223	″	″ ″
R867	″ -333	″	33 kΩ ″
R878	″ -333	″	″ ″
R869	″ -272	″	2.7 kΩ ″
R870	″ -822	″	8.2 kΩ ″
R871	″ -563	″	56 kΩ ″
R872	″ -103	″	10 kΩ ″
R873	″ -223	″	22 kΩ ″
R874	″ -153	″	15 kΩ ″
R875	″ -681	″	680 kΩ ″
R876	″ -102	″	1 kΩ ″
R877	″ -102	″	″ ″
R878	″ -392	″	3.9 kΩ ″
R879	″ -103	″	10 kΩ ″
R880	″ -103	″	″ ″
R881	″ -563	″	56 kΩ ″
R882	″ -103	″	10 kΩ ″
R883,884	″ -472	″	4.7 kΩ ″
R885	″ -392	″	3.9 kΩ ″
R886	″ -392	″	″ ″
R888 ~ 892	″ -223	″	22 kΩ ″
R893,894	″ -333	″	33 kΩ ″
R895	″ -102	″	1 kΩ ″
R896	″ -333	″	33 kΩ ″
R897	″ -103	″	10 kΩ ″
R898,899	″ -472	″	4.7 kΩ ″
(Capacitors)			
C501,601	QET41HR-475	Electrolytic	4.7 μF 50 V
C502,602	QFM41HJ-822	Mylar	0.0082μF ″
C503,603	QET41HR-335	Electrolytic	3.3 μF ″
C504,604	QFM41HJ-392	Mylar	0.0039μF ″
C505,605	″ -272	″	0.0027μF ″
C506,606	″ -152	″	0.0015μF ″
C507,607	″ -562	″	0.0056μF ″
C508,608	QCS21HJ-361	Ceramic	360 pF ″
C509,609	″ -681	″	680 pF ″
C510,610	QFM41HJ-152	Mylar	0.0015μF ″
C511,611	″ -272	″	0.0027μF ″
C512,612	QET41HR-105	Electrolytic	1 μF ″
C513,613	″ -105	″	1 μF ″
C514,614	QFM41HJ-272	Mylar	0.0027μF ″
C515,615	QET41ER-336	Electrolytic	33 μF 25 V
C516,616	QFM41HJ-393	Mylar	0.039μF 50 V
C517,617	QCS11HJ-470	Ceramic	47 pF ″
C518,618	QFM41HJ-123	Mylar	0.012μF ″
C519,619	″ -123	″	″ ″
C520,620	″ -123	″	″ ″
C521,621	″ -103	″	0.01 μF ″
C522,622	″ -153	″	0.015μF ″
C523,623	QFM41HJ-183	Mylar	0.018μF 50 V
C524,624	″ -153	″	0.015μF ″
C525,625	QET41HR-475	Electrolytic	4.7 μF ″
C526,626	QFM41HJ-102	Mylar	0.001μF ″
C527,627	QCS22HJ-201	Ceramic	200 pF 500 V
C528,628	QCS11HJ-221	″	220 pF 50 V
C529,629	QFM41HJ-472	Mylar	0.0047μF ″
C530,630	″ -152	″	0.0015μF ″
C531,631	QET41HR-105	Electrolytic	1 μF ″
C532,632	QFM41HJ-122	Mylar	0.0012μF ″
C801	QFM41HJ-153	″	0.015μF ″
C802	″ -152	″	0.0015μF ″
C803	″ -123	″	0.012μF ″
C804	″ -822	″	0.0082μF ″
C805	″ -823	″	0.082μF ″
C806	″ -222	″	0.0022μF ″
C807	QFV81HJ-274	″	0.27 μF ″
C808	″ -274	″	″ ″
C809	QCS21HJ-201	Ceramic	200 pF ″
C810	″ -101	″	100 pF ″
C812	QET41ER-336	Electrolytic	33 μF 25 V
C813	QEP82XJ-153	Polypropylene	0.015μF 50 V
C814	QFM41HJ-102	Mylar	0.001 μF ″
C815	″ -102	″	″ ″
C816	″ -222	″	0.0022μF ″
C817	″ -222	″	″ ″
C820	QET41ER-106	Electrolytic	10 μF 25 V
C823	QFV81HJ-474	Mylar	0.47 μF ″
C824	QET41ER-106	Electrolytic	10 μF 25 V
C825	QFM41HJ-104	Mylar	0.1 μF 50 V
C826	QCS11HJ-470	Cermaic	47 pF ″
C827	″ -470	″	″ ″
C828	″ -470	″	″ ″
C829	″ -470	″	″ ″
C830	QET41ER-107N	Electrolytic	100 μF 25 V
C831	″ -107	″	″ ″
C832	QET41AR-107	″	″ 10 V
C833	″ -107	″	″ ″
VR501,601	QVP8A0B-024	S.F. Resistor	20 kΩ
VR502,602	QVZ3501-473	″	
VR503,603	QVP8A0B-024	″	20 kΩ
VR801-804	QVP8A0B-024	″	″
VR805	″ -053	″	5 kΩ
L501,601	VPQ0001-183S	Inductor	
L502,602	″ -562S	″	
L801	VQP0001-103	″	
L802,803	″ -183	″	
L804	″ -473	″	
L805	VGC0009-001	OSC Block	
L806	VQH1008-004	OSC Coil	
CF801	CSB400P	Cera Lock	
CN801	QMV5005-003	Plug Ass'y	for E. Head
CN802	″ -003	″	for Head
CN-A	″ -004	″	for Bias
CN-B	″ -003	″	for MEQ
CN-C	″ -004	″	for SENS
CN-D	″ -009	″	for HEQ
CN-E	″ -003	″	
CN803	″ -004	″	
CN804	″ -003	″	
CN805	″ -003	″	
CN806	″ -003	″	
CN807	″ -005	″	
CN808	″ -006	″	
CN809	″ -004	″	
IC501,601	UPD4066BC	C MOS IC	or MN4066B

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
IC502,602	UPD4066BC	C MOS IC	or MN4066B
IC503,603	〃	〃	〃
IC801	M5218L	IC	
IC802	〃	〃	
IC803	UPC1228H	〃	
IC804	UPD4066BC	〃	or MN4066B
IC805	HD14052B	〃	or TC4052
IC806	LM6405A-140	〃	
IC807	UPD4066BC	〃	or MN4066B
IC808	M5218L	〃	
IC809	M5218L	〃	
Q501,601	2SD1302	Si. Transistor	
Q502~506 602~606	2SC1684	〃	
Q801	2SA564	〃	
Q802,803	2SC1318	〃	
Q806-809	2SC1684	〃	
Q810	2SC3064	〃	
Q811 ⚠	2SD1153	〃	
Q812 ⚠	2SC1162	〃	
Q814~818	2SC1684	〃	
Q819	2SA564(R,S)	〃	
Q820	2SK105(E,F)	FET	
D801~803 806,808 809	1SS119-14TE	Diode	or MA165-TA5

Mechanism Control P.W. Board Ass'y Parts List

Ref. No.	Parts No.	Parts Name	Remarks
	VMW1591-105	P.W. Board	
(Resistors)			
RP01	QRD161J-203	Carbon	20 kΩ 1/6 W
RP02	〃 -103	〃	10 kΩ 〃
RP03	〃 -203	〃	20 kΩ 〃
RP04	〃 -103	〃	10 kΩ 〃
RP05	〃 -203	〃	20 kΩ 〃
RP06	〃 -103	〃	10 kΩ 〃
RP07	〃 -203	〃	20 kΩ 〃
RP08	〃 -203	〃	〃 〃
RP10	〃 -682	〃	6.8 kΩ 〃
RP11	〃 -682	〃	〃 〃
RP12	〃 -682	〃	〃 〃
RP13	〃 -222	〃	2.2 kΩ 〃
RP14	〃 -222	〃	〃 〃
RP15	〃 -222	〃	〃 〃
RP16	〃 -222	〃	〃 〃
RP17	〃 -682	〃	6.8 kΩ 〃
RP18	〃 -102	〃	1 kΩ 〃
RP19	〃 -103	〃	10 kΩ 〃
RP20	〃 -103	〃	〃 〃
RP21	〃 -103	〃	〃 〃
RP22	〃 -105	〃	1 MΩ 〃
RP23	〃 -103	〃	10 kΩ 〃
RP24	〃 -123	〃	12 kΩ 〃
RP25	〃 -333	〃	33 kΩ 〃
RP26	〃 -682	〃	6.8 kΩ 〃
RP27	〃 -102	〃	1 kΩ 〃
RP28	〃 -102	〃	〃 〃
RP29	〃 -682	〃	6.8 kΩ 〃
RP30	〃 -333	〃	33 kΩ 〃
RP31	〃 -104	〃	100 kΩ 〃
RP32	〃 -333	〃	33 kΩ 〃
RP33	〃 -103	〃	10 kΩ 〃
RP34	〃 -103	〃	〃 〃
RP35	〃 -683	〃	68 kΩ 〃
RP36	QRG019J-100	O.M.F	10 Ω 1 W
RP37	QRD161J-391	Carbon	390 Ω 1/6 W
RP38	〃 -332	〃	3.3 kΩ 〃
RP39	〃 -471	〃	470 Ω 〃
RP40	〃 -103	〃	10 kΩ 〃
RP41	〃 -333	〃	33 kΩ 〃
RP42	〃 -103	〃	10 kΩ 〃
RP43	〃 -333	〃	33 kΩ 〃
RP44	〃 -103	〃	10 kΩ 〃
RP45	〃 -333	〃	33 kΩ 〃
RP46	〃 -103	〃	10 kΩ 〃
RP47	〃 -333	〃	33 kΩ 〃
RP48	〃 -103	〃	10 kΩ 〃
RP49	〃 -333	〃	33 kΩ 〃
RP50	〃 -682	〃	6.8 kΩ 〃
RP51	〃 -103	〃	10 kΩ 〃
RP52	〃 -103	〃	〃 〃
RP53	〃 -222	〃	2.2 kΩ 〃
RP54	〃 -222	〃	〃 〃
RP55	〃 -103	〃	10 kΩ 〃
RP57	〃 -103	〃	10 kΩ 〃
RP58	〃 -392	〃	3.9 Ω 〃
RP60	〃 -103	〃	10 kΩ 〃
RP61	〃 -331	〃	330 Ω 〃
RP62	〃 -102	〃	1 kΩ 〃
RP63	〃 -681	〃	680 Ω 〃
RP64	〃 -681	〃	〃 〃
RP65	〃 -102	〃	1 kΩ 〃
RP66	〃 -681	〃	680 Ω 〃

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
RP67	QRD161J-221	Carbon	220 Ω 1/6 W
RP68	″ -222	″	2.2 kΩ ″
RP70	″ -333	″	33 kΩ ″
RP71	″ -101	″	100 Ω ″
RP72	″ -223	″	22 kΩ ″
RP73	″ -822	″	8.2 kΩ ″
RP74	″ -562	″	5.6 kΩ ″
RP75	″ -333	″	33 kΩ ″
RP78	″ -680	″	68 Ω ″
RP79	″ -222	″	2.2 kΩ ″
RP80	″ -682	″	6.8 kΩ ″
RP81	″ -101	″	100 Ω ″
RP82	″ -182	″	1.8 kΩ ″
RP83	″ -332	″	3.3 kΩ ″
RP84	″ -682	″	6.8 kΩ ″
RP85	″ -103	″	10 kΩ ″
RP86	″ -822	″	8.2 kΩ ″
RP87	QRD149J-471S	Fail Safety	470 Ω 1/4 W
RP88 ⚠	QRG029J-330	O.M.F	33 Ω 2 W
RP89	QRD161J-152	Carbon	1.5 kΩ 1/6 W
RP90 ⚠	QRD149J-470S	Fail Safety	47 Ω 1/4 W
RP91 ⚠	QRD129J-2R2	″	2.2 Ω 1/2 W
RP92	″ -220	″	22 Ω ″
RP93	QRD149J-391S	″	390 Ω 1/4 W
RP95	QRD161J-103	Carbon	10 kΩ 1/6 W
RP96	″ -103	″	″ ″
RP97	″ -103	″	″ ″
RP98	″ -102	″	1 kΩ ″
RP99	″ -102	″	″ ″
RP100	″ -104	″	100 kΩ ″
RP101	″ -102	″	1 kΩ ″
RP102	QRD144J-122S	″	1.2 kΩ 1/4 W
RP106	QRD161J-221	″	220 Ω 1/6 W
RP107	″ -331	″	330 Ω ″
RP113	″ -333	″	33 kΩ ″
RP114	″ -104	″	100 kΩ ″
RP115	″ -104	″	″ ″
RP116	″ -222	″	2.2 kΩ ″
RM01	″ -273	″	27 kΩ ″
RM02	″ -822	″	8.2 kΩ ″
RM03	″ -153	″	15 kΩ ″
RM04	″ -153	″	″ ″
RM05	″ -182	″	1. 8kΩ ″
RM06	″ -122	″	1.2 kΩ ″
RM07	″ -102	″	1 kΩ ″
RM08	″ -273	″	27 kΩ ″
RM09	″ -822	″	8.2 kΩ ″
RM10	″ -153	″	15 kΩ ″
RM11	″ -153	″	″ ″
RM12	″ -182	″	1.8 Ω ″
RM13	″ -122	″	1.2 kΩ ″
RM14	″ -102	″	1 kΩ ″
RM21	″ -102	″	1 kΩ ″
RM22	″ -821	″	820 Ω ″
RN05	″ -822	″	8.2 kΩ ″
RN06	″ -682	″	6.8 kΩ ″
RN07	QRD149J-471S	Fail Safety	470 Ω 1/4 W
RN08 ⚠	QRG019J-220	O.M.F	22 Ω 1 W
RN09	QRD149J-470S	Fail Safety	47 Ω 1/4 W

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When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
(Electrolytic Capacitor)			
CP01	QET41ER-106	Electrolytic	10 μF 25 V
CP04	″ -476	″	47 μF ″
CP07	QET41AR-109N	″	10000μF 10 V
CP08 ⚠	″ -107	″	100 μF ″
CP09	QER41ER-336	″	33 μF 25 V
CP11	QER41HR-335	″	3.3 μF 50 V
CP13	QER41AR-107	″	100 μF 10 V
CP14 ⚠	QET41ER-228N	″	2200 μF 25 V
CP17 ⚠	QET41HR-108N	″	1000 μF 50 V
CP18	QET41ER-106	″	10 μF 25 V
CP20	″ -106	″	″ ″
CP21	″ -106	″	″ ″
CP22	QET41AR-107	″	100 μF 10 V
CP23	QET41ER-336	″	33 μF 25 V
CP26	″ -106	″	10 μF ″
CP27	″ -336	″	33 μF ″
CP28	″ -335	″	3.3 μF ″
CP33	QET41HR-335N	″	″ 50 V
CP34	″ -335N	″	″ ″
CP43	QET41ER-106	″	10 μF 25 V
CP44	″ -106	″	″ ″
(Ceramic Capaciator)			
CP02	QCS11HJ-101	Ceramic	100 pF 50 V
CP03	″ -101	″	″ ″
CP05	QCF11HP-103	″	0.01 μF ″
CP06	″ -103	″	″ ″
CP12	″ -103	″	″ ″
CP15 ⚠	″ -103	″	″ ″
CP16 ⚠	″ -103	″	″ ″
CP19	″ -103	″	″ ″
CP24	″ -103	″	″ ″
CP29	″ -103	″	″ ″
CP31	″ -103	″	″ ″
CP45	″ -103	″	″ ″
(Diode)			
DP01	MA165	Silicon	or 1SS119
DP02	″	″	″
DP03	″	″	″
DP05	10E1-B	″	
DP06	MA165	″	or 1SS119
DP07	″	″	″
DP09	″	″	″
DP11	″	″	″
DP12	″	″	″
DP13	″	″	″
DP15-18 ⚠	10E2-B	″	
DP19	MA165	″	or 1SS119
DP20	″	″	″
DP22	RD5.6E	Zener	
DP24	MA165	Silicon	or 1SS119
(IC)			
ICP01	MN4069UB	IC	or TC4069UB
ICP02	LA6339	″	or UPC339C
ICP03	LM6402H	″	
ICP04	BA6208A	″	
ICP05	″	″	
ICP06	M54519P	″	
ICP07	M5218L	″	
ICP08 ⚠	AN6531	″	
ICP09	AN6554	″	
ICN01	M5218L	″	
ICN02 ⚠	UPC78L05	IC″	

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
(Transistor)			
QP01	2SC1684	Silicon	
QP02	2SD471	〃	
QP03	2SA564	〃	
QP04	2SC1684	〃	
QP05 ⚠	2SD882	〃	
QP06	2SC1684	〃	
QP07 ⚠	2SD882	〃	
QP08	2SD471	〃	
QN01 ⚠	2SD882	〃	
(Others)			
CTP01	CSB800A	CERALOCK	
SP01-12	QSP0301-002	Tact Sw.	

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks
SP13	QSS2301-102	Slide Sw.	
	VND4003-030	Fuse Label	DD-V9A/B/E
	TAZ000331-02	Fuse Holder	DD-V9A/B/E
⚠	QMF51A2-1R25	〃	DD-V9A/E
⚠	〃 -1R25BS	〃	DD-V9B
⚠	QMF51C3-R80	〃	DD-V9U
	QMS3504-002	Jack Ass'y	
	VMZ0016-102	Tab Ass'y	DD-V9A/B/E
CNP01	QMV5005-005	Connector	
CNP02	〃 -008	〃	
CNM01-03	〃 -003	〃	
CNM04	〃 -004	〃	
CNM05	〃 -006	〃	
CNM06	〃 -008	〃	
⚠	QSS2325-203BS	Voltage Select Sw.	DD-V9B
⚠	〃 -203	〃	DD-V9E
⚠	QSR0084-001	〃	DD-V9U
⚠	TAW000504-01	Connector	DD-V9U

Display P.W. Board Ass'y Parts List

Ref. No.	Parts No.	Parts Name	Remarks
———	BG-153Z	FL. Tube	
IC751	AN6870N	IC	
IC752	M54580P	Transistor Array	
IC753	M5218L	IC	
Q751～759	2SC1684(R,S)	Transistor	
Q762	N13T1	〃	
D751	RD4.3E(B3)	Diode	
D752～759 351,451	1SS119	〃	
(Resistors)			
R751	QRD161J-182	Carbon	1.8 kΩ 1/6 W
R752	〃 -182	〃	〃 〃
R753	〃 -333	〃	33 kΩ 〃
R754	〃 -333	〃	〃 〃
R755	〃 -103	〃	10 kΩ 〃
R757	〃 -104	〃	100 kΩ 〃
R758	〃 -104	〃	〃 〃
R759	〃 -104	〃	〃 〃
R760	〃 -104	〃	〃 〃
R761	〃 -473	〃	47 kΩ 〃
R763	〃 -680	〃	68 Ω 〃
R764	〃 -103	〃	10 kΩ 〃
R765	〃 -103	〃	〃 〃
R766	〃 -102	〃	1 kΩ 〃
R767	〃 -102	〃	〃 〃
R768	〃 -103	〃	10 kΩ 〃
R769	〃 -103	〃	〃 〃
R770	〃 -103	〃	〃 〃
R771	〃 -103	〃	〃 〃
R772	〃 -472	〃	4.7 kΩ 〃
R773	QRD143J-103S	〃	10 kΩ 1/4 W
R775 ⚠	QRD149J-151S	Fail Safety	150 Ω 〃
R776	QRD161J-103	Carbon	10 kΩ 1/6 W
R777	〃 -561	〃	560 Ω 〃
R778	〃 -561	〃	〃 〃
R781	〃 -104	〃	100 kΩ 〃
R782	〃 -472	〃	4.7 kΩ 〃
R783	〃 -103	〃	10 kΩ
R787	〃 -473	〃	47 kΩ 〃
R788	〃 -222	〃	2.2 kΩ 〃
R790	〃 -103	〃	10 kΩ 〃

Ref. No.	Parts No.	Parts Name	Remarks
R791	QRD161J-561	Carbon	560 Ω 1/6 W
R792	〃 -473	〃	47 kΩ 〃
R351,451	〃 -222	〃	2.2 kΩ 〃
R352,452	〃 -223	〃	22 kΩ 〃
R353,453	〃 -223	〃	〃 〃
R354,454	〃 -564	〃	560 kΩ 〃
R356,456	〃 -102	〃	1 kΩ 〃
R358,458	〃 -683	〃	68 kΩ 〃
(Capacitors)			
C751	QET41HR-105	Electrolytic	1 μF 50 V
C752	〃 -105	〃	〃 〃
C753	QFM41HJ-473	Mylar	0.047μF 〃
C754	〃 -473	〃	〃 〃
C755	〃 -473	〃	〃 〃
C756	QET41ER-106	Electrolytic	10 μF 25 V
C757	QCY41HK-222	Ceramic	0.0022μF 50 V
C353,453	QET41HR-684N	Electrolytic	0.68 μF 〃
VR351,451	QVP8A0B-023	V. Resistor	20 kΩ
CN751	QMV5005-007	Connector	
CN752	〃 -003	〃	
CN753	〃 -006	〃	
CN754	〃 -004	〃	
(Counter Section)			
IC C01	TM4242A	IC	
DC01	RD10E(B3)	Diode	
DC02	1SS119	〃	or MA165
CFC01	CSB440E	Cera Lock	
	VCR0003-003	Resistor Array	
(Resistors)			
RCC01	QRD121J-561	Carbon	560 Ω 1/2 W
RCC03	QRD161J-104	〃	100 kΩ 1/6 W
RCC04	〃 -105	〃	1 MΩ 〃
(Capacitors)			
CC01	QET41HR-105	Electrolytic	1 μF 50 V
CC02	QET41ER-106	〃	10 μF 25 V
CC03	QCS11HJ-151	Ceramic	150 pF 50 V
CC04	〃 -151	〃	〃 〃
CN-T1	QMV5005-005	Connector	
CN-T2	〃 -008	〃	
CN-T3	〃 -004	〃	
CN-T4	〃 -006	〃	

Other P.W. Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks
(Power P.W. Board Ass'y)			
	VMW4612-002	P.W. Board	
	QSP1110-305BS	Push Switch	DD-V9B
	″ -305	″	DD-V9A/B
	″ -308	″	DD-V9C/J
	″ -306	″	DD-V9U
	QFZ9010-103	M.P. Capacitor	DD-V9A/B/E

Ref. No.	Parts No.	Parts Name	Remarks
	QCZ9014-103	M.P. Capacitor	DD-V9C/J
	QCZ9015-103	″	DD-V9U
(VR & SW P.W. Board Ass'y)			
	VMW4661-001	P.W. Board	
	QRD161J-102	C. Resistor	1 kΩ 1/6 W

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Enclosure Assembly and Electrical Parts List

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
1		VJD3389-002	Front Plate (2)		1
2～5,43		ZCDDV9Y-CBF	Front Plate Sub Ass'y		1
2		VJC1264-002	Front Plate		1
3		VJK3205-002	Finder		1
4		VJD4662-001	Fitting		1
5		VJD3391-002	Escutcheon		1
6		VJD2196-001	Button Case		1
7		VXP3086-001	Push Button	PLAY	1
8		″ -002	″	STOP	1
9		VXP3087-001	″	F.F.	1
10		″ -002	″	REW	1
11		VXP3089-001	″	M.S. FF	1
12		″ -002	″	M.S. REW	1
13		VXP3088-001	″	REC	1
14		″ -002	″	REC. MUTE	1
15		VXP4310-001	″	EJECT	1
16		VXP3090-001	″	PAUSE	1
17		VXP3091-001	″	DIRECTION	1
18		VYH4770-001	Cap		1
19		VKW3001-104	Compression Spring		1
20		VKL5352-00A	Mecha Bracket (R) Ass'y		1
21		VKZ4143-002	Special Screw	for M. BKT(R)	2
22		VKS4522-001	Eject Arm		1
23		VKS4377-001	Arm Holder		1
24		VKW3006-088	Torsion Spring		1
25		VKS4378-001	Lock Arm		1
26		VKW3006-070	Torsion Spring		1
27		VKL5354-001	Eject Lever		1
28		VKH3013-004	Flange Collar		1
29		VKL3433-00B	Holder Bracket Ass'y		1
30		VJT2080-001	Cassette Holder		1
31-1		VKS4380-001	Collar		1
31-2		″ -002	″		1
32		VKS4379-001	Pressure Lever		1
33		″ -002	″		1
34		VJD4661-002	LED Plate		1
35		VKL5353-00A	Mecha Bracket (L) Ass'y		1
36		VKZ4143-002	Special Screw	for M. BKT～M. Chassis	2
37		VYH4866-001	Damper Holder	for F. Plate	1
38		VYH4769-001	Gear		1
39～41		ZCDDV9Y-CCA	Cassette Case Ass'y		1
39		VJT3105-001	Cassette Lid		1
40		VJT4072-002	Lid Plate (1)		1
41		VJT4073-002	″ (2)		1
43		VJD4615-003	Filter		1
44		VXS4041-002	Slide Knob	for Timer	1
45		VKL5360-001	Lock Plate	for Timer Safety	1
46		VKW3001-093	Compression Spring		1
47		VXP4308-001	Push Button	for Power	1

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
48		VKS4003-008	Pipe		1
49		VXP4178-002	Push Knob		4
50		VJD2200-001	Drawer Panel		1
51		VXS4096-001	Slide Knob	Reverse Mode	1
52		VJD4663-002	Blind (1)		1
53		VXS3011-002	Slide Knob	OUTPUT	1
54		″ -001	″	INPUT	2
55		VJD4664-001	Blind (2)		1
56		VGZ0005-001	Membrain Switch Ass'y		1
57		VJD3390-003	Front Panel (3)		1
58		VKS4525-001	Holder		1
59		″ -002	″		1
60		VKS3165-001	Lock Arm		1
61		VKH3013-008	Flange Collar		1
62		VKW4400-001	Torsion Spring		1
63		VKL5359-001	Pulley Bracket		1
64		VKS4523-001	Pulley		4
65		VKH4423-001	Shaft		4
66		VJC1235-002	Top Cover		1
67		VKZ3001-005	Special Screw		4
68		VYSA1R8-027	Spacer	for Top Cover	4
69		VJC1195-003	Bottom Cover		1
70		VJF4003-002	Foot		4
72		VKW4417-001	Drawer Spring		1
73		VYN2111-002PA	Name Plate	DD-V9B	1
		″ -003PA	″	DD-V9A	1
		″ -004PA	″	DD-V9C	1
		″ -005PA	″	DD-V9E	1
		″ -006PA	″	DD-9VJ	1
		″ -007PA	″	DD-V9U	1
74		VJC1265-002	Front Panel		1
75		VKL2180-002	Amp. Chassis (L)		1
76		VKL2179-002	″ (C)		1
77		VKL2178-001	″ (R)		1
78		VJC1261-001	Rear Panel	DD-V9A/C/J	1
		″ -002	″	DD-V9B/E/U	1
79	⚠	QMP9017-008BS	Power Cord	DD-V9B	1
	⚠	QMP2560-200	″	DD-V9A	1
	⚠	QMP1200-200	″	DD-V9C/J	1
	⚠	QMP3900-200	″	DD-V9E	1
	⚠	QMP7600-200	″	DD-V9U	1
80	⚠	QHS3876-162	S.R. Bushing	DD-V9A/C/E/J/U	1
	⚠	″ -162BS	″	DD-V9B	1
81		VKL3297-002	Power Bracket		1
82	⚠	QSP1110-305BS	Push Switch (Power)	DD-V9B	1
	⚠	″ -305	″	DD-V9A/E	1
	⚠	″ -308	″	DD-V9C/J	1
	⚠	″ -306	″	DD-V9U	1
83	⚠	QFZ9010-103	M.P. Capacitor	DD-V9A/B/E	1
	⚠	QCZ9014-103	″	DD-V9C/J	1
	⚠	QCZ9015-103	″	DD-V9U	1
85	⚠	VTP66C7-041BBS	Power Transformer	DD-V9B	1
	⚠	VTP66T7-031B	″	DD-V9A	1
	⚠	VTP66A7-041B	″	DD-V9C/J	1
	⚠	VTP66C7-041B	″	DD-V9E	1
	⚠	VTP66U7-041B	″	DD-V9U	1
86		VKZ4001-011	Wire Holder		3
87		SLA-5641-07	LED Module		1
88		VKL5396-00A	Bracket Ass'y		1
89		VKY4293-001	Lock Spring		1
90		T41615-007	Ball		1
91		VKZ4001-007	Wire Holder		1
92		VMA4113-001	Insulator		1
93		VKZ4150-001	Special Nut	Head Phone	1
94		VJD4658-001	LED Reflector		1

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
96		VKL2181-001	Bottom Cover		1
97		VKY4297-002	Spring		1
98		VKL5363-002	Bracket		1
99		VKL4941-002	Heat Sink	DD-V9C/J	1
		VKL5005-002	″	DD-V9A/B/E/U	1
100		VJD3404-001	Fitting (2)		4
111		REE2000	E Ring	Pulley	1
112		REE2500	″	Lock Arm	1
113		WBS3000	Washer	P.W.B. Earth	1
114		WNS3000Z	″	for Shield Plate	2
115		Q03093-504	″		1
117		Q03095-235	″	DISP. P.W.B. × 2, Wire Holder × 1	3
118		Q03091-201	″		1
122		SBSF2608R	Screw		
123		SBSF2608Z	″	INPUT VR. P.W.B.	3
124		SDSF3008Z	″	Holder × 2, Holder × 3	5
125		SBSF3010Z	″	Bottom Cover	1
126		SBSF3008V	″	DISP. P.W.B. × 1, Wire Holder × 1	2
127		SDST2614Z	″	Arm Holder	1
128		SSST3006Z	″	Front Panel × 5	5
129		SDST3006Z	″	Bracket × 2, Amp Chassis × 5, Bottom Cover × 4, Power Bracket × 1, Power Trans. × 4, Wire Holder × 1, FUSE P.W.B. × 2, Pulley BKT × 2, Main P.W.B. × 4, BES P.W.B. × 3, Mecha Con × 3, Heat Sink × 2, INPUT VR P.W.B. × 3	36
130		SDST3006R	″	Rear Panel	8
131		SDST3006R	″	Top Cover	2
132		SDSF3008R	″	PIN	2
133		SSSF2608Z	″	Front Plate (2) × 3 Front Plate (3) × 3	6
134		SSSF2608Z	″	Front Plate (3) × 3	3
135		SSST2608Z	″	Eject Lever	1
136		SDSF2608R	″		
137		SSSP2606Z	″	Timer Switch	2
138		SDST3004Z	″	Bracket × 2, Sprintg × 1	3
139		SDSP2003Z	″	Input VR, OUTPUT VR	4
140		SSST3010Z	″	Lock Arm	1
141		SSSF3008Z		F. Plate ~ F. Panel × 5	5
142		SDSF2608Z		Drower Panel × 4 Shield Board × 3	7
143		SDST3006C		Mecha ~ A. Chassis × 2 Mecha ~ F. Plate × 2	4
144		SSST3014Z	Screw	Collar	1
145		DPSP3008Z	″		4
146		SDSP3008R	″	for V. Select DD-V9B/E/U	2
147		LPSP3006Z	″	Push Switch	2
151		VKH3000-070	Collar		1
152		VMA4173-001	Shield Board		1
153		VJD4580-001	JVC Mark		1
154		VYSH107-008	Spacer		1
155		VYSH102-022	″		1
156		VYSH105-025	″		1
157		VYSS101-007	″		2
158		VYSA1R4-068	″		1
159		VYSA1R6-042	″		1
160		VYSH115-004		P.W. Board	1
161		VYSH110-010	″		1

Enclosure Assembly and Electrical Parts (1) (Except P.W. Board Parts)

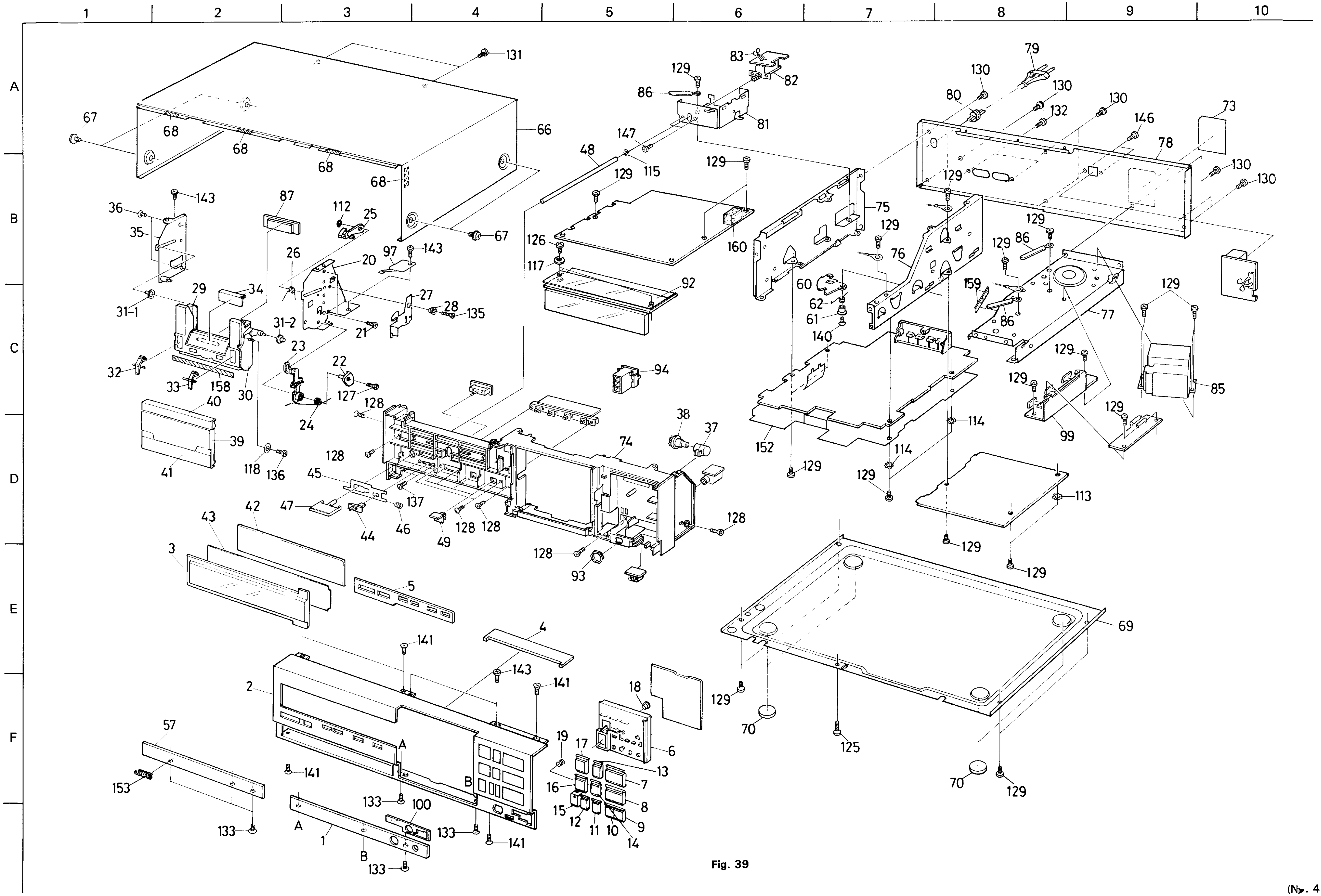
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Fig. 39

Enclosure Assemlby and Electrical Parts (2)

(Except P.W. Board Parts)

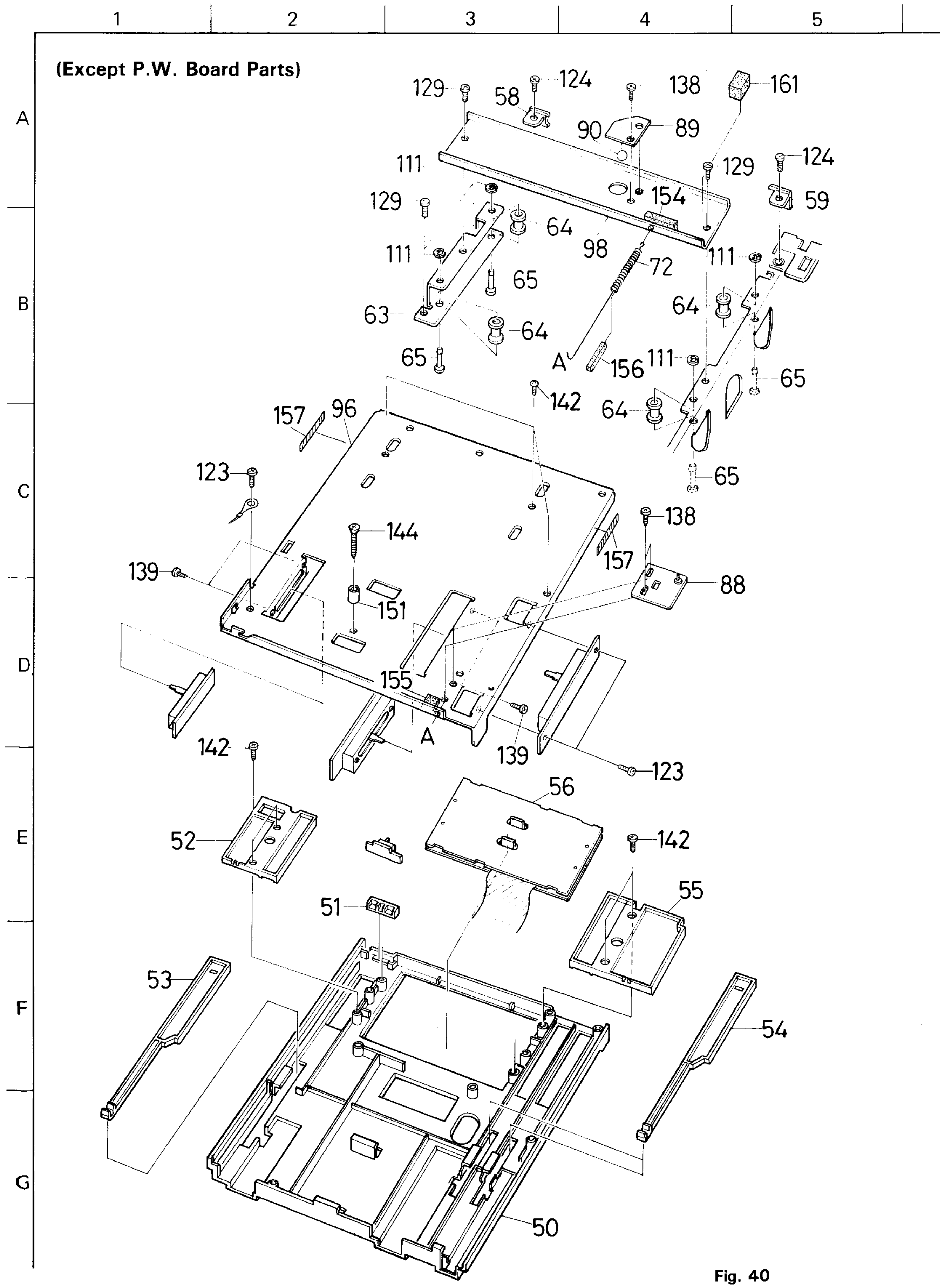

Fig. 40

Mechanical Component Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
1		VKL1221-00F	Chassis Base Ass'y		1
2		VKL5347-001	Brake Bar		1
3		VKW4391-001	Brake Bar Spring		1
4		VKZ4129-001	Rubber Tire		2
5		VKL5409-001	Connecting Lever	for Brake	1
6		VKL5350-003	Safety Lever		1
7		VKW4388-001	Torsion Spring		1
8		T41615-004	Stell Ball		2
9		VKS3164-002	Reverse Lever		1
10		VKS4517-002	Conecting Arm		1
11		VKL5349-004	Switch Lever		1
12		VKW4379-001	Spring		1
13		VKS4539-002	Kick Lever	Right	1
14		〃 -001	〃	Left	1
15		VKY4282-001	Pack Spring		1
16		VKZ4128-001	Special Screw		2
17		VDG2109-M0A01A	Head Mount Unit		
18		VKL5390-00B	Cam Lever Ass'y		1
19		VKH4421-004	Collar		1
20		VKH3000-072	〃		1
21		VKW4431-001	Torsion Spring		1
22		VKS4515-005	Guide Lever	Right	1
23		VKS4515-006	〃	Left	1
24		VKH3000-059	Collar		2
25-1		VKY4281-005	Spring Plate		1
25-2		VKY4281-004	〃		1
37		VKP4132-00E	Pinch Roller Arm Ass'y		1
38		VKW3006-067	Torsion Spring		1
39		VKW4384-002	Tape Guide Spring		1
40		VKP4132-00F	Pinch Roller Arm Ass'y		1
41		VKW4407-001	Torsion Spring		1
42		VKW4390-002	Tape Guide Spring		1
43		VKS4513-001	Adjust Screw	for Pinch Roller	2
44		VKZ4192-002	Pinch Roller Lever	Right	1
45		VKW4385-002	Pinch Roller Spring	〃	1
46		VKL4197-001	Pinch Roller Lever	Left	1
47		VKW4386-002	Pinch Roller Spring	〃	1
48		VKR4322-00B	Cam Switch Ass'y		1
49		VKL3429-00A	Reel Base Ass'y		1
50		VKR3001-003	Gear (2)		1
51		VKR3001-004	Gear (2)		1
52		VKR3106-002	Cam Gear (1)		1
53		VKR4281-00B	Reel Disk Ass'y		2
54		VKS4131-001	Reel Stopper		2
55		VKR4170-001	Ring		2
56		VKZ4003-003	Clutch Felt		2
59		VKY4294-003	Spring Plate		1
62		VKZ4202-002	Head Wire Cramp		1
63		SPSK2020N	Screw		2
64		VKL5466-00A	Reverse Bracket Ass'y		1
65	⚠	BFS7B13	Reel Motor		1
66	⚠	MMN-6C2RK	Drive Motor		1
67		VKR4223-002	Motor Pulley	for Reel Motor	1
68		VKB3000-069	Belt		1
69		VKZ4128-001	Special Screw	for Motor	4
70		VKR4326-001	Motor Gear	for Drive Motor	1
71	⚠	MC956B	D.D. Motor Ass'y		1
72		MJD3383-002	Mecha Plate		1
73		SLF-301C-05	L.E.D.		
74		———	Hall IC P.W. Board Ass'y		1

Mechanical Component Parts

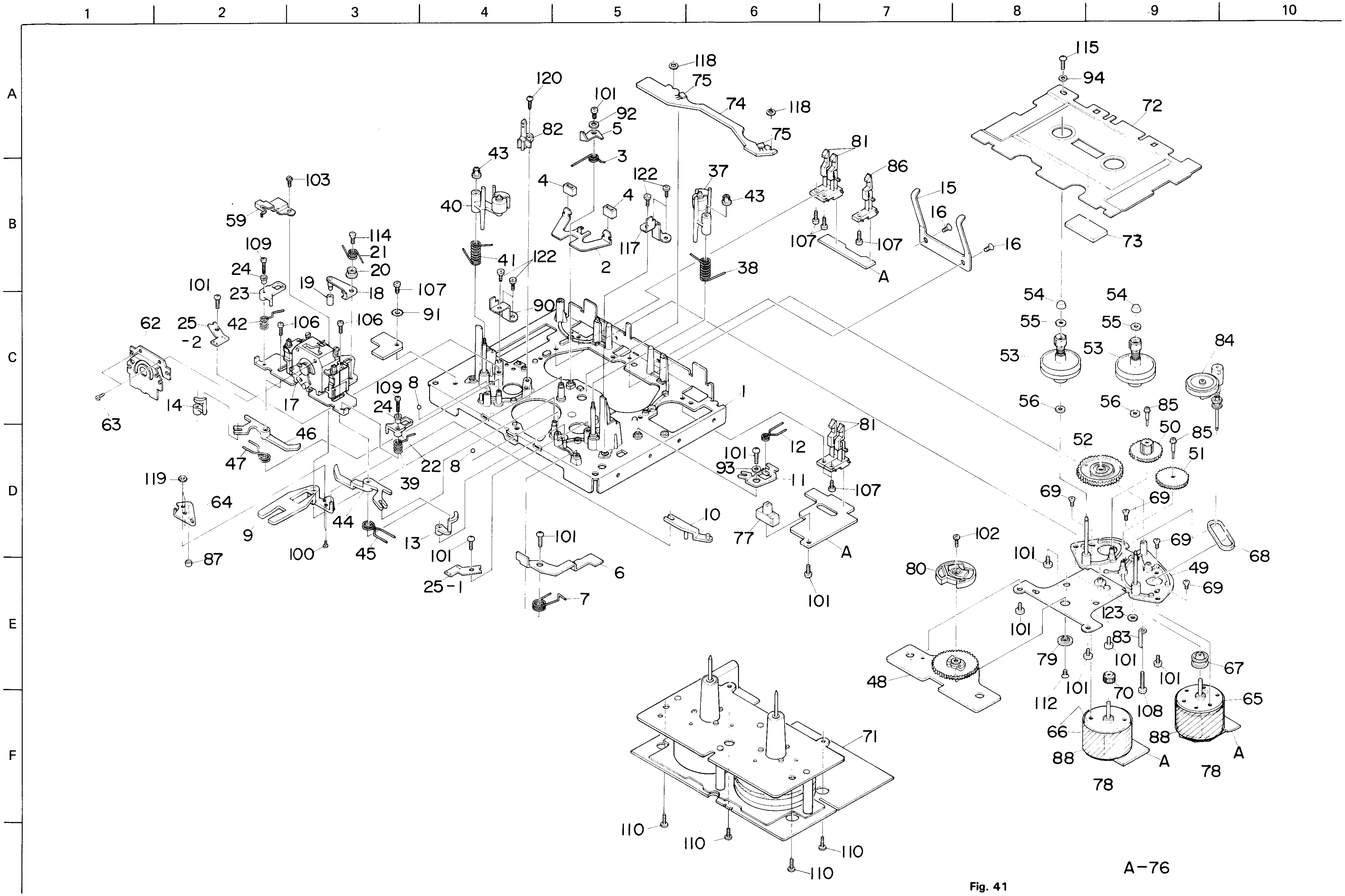
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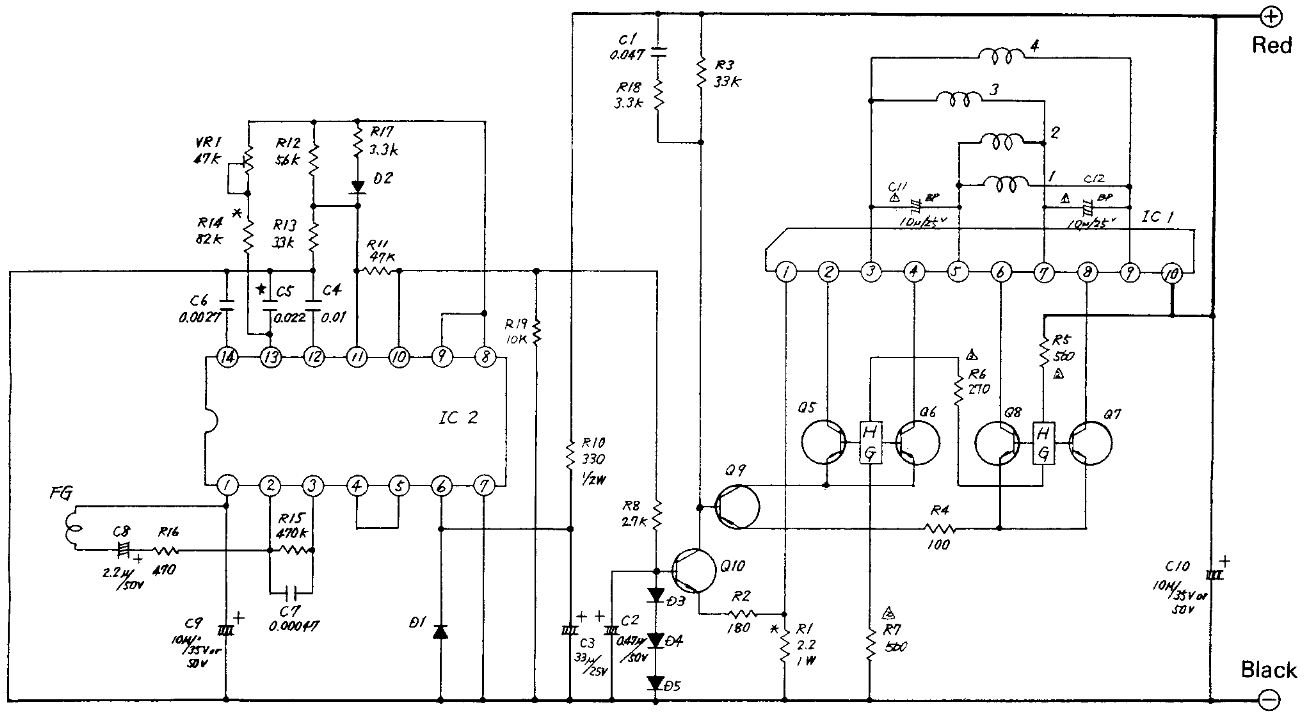
Fig. 41

Ref. No.	⚠	Parts No.	Parts Name	Remarks	Q'ty
75		DN6838A	Hall IC		2
76		———	Direction Switch P.W. Board Ass'y		1
77		QSS2201-008	Slide Switch		1
78		VQP0004-231	Inductor		2
79		VKH4430-001	Collar		1
80		VKR3107-003	Main Cam		1
81		VSH1125-004	Leaf Switch		4
82		SPI-302	Reflector		1
83		VKY4298-001	Earth Plate		1
84		VKS4323-00A	Idler System		1
85		VKS4533-001	Lock Bush	Motor	2
86		VSH1125-005	Leaf Switch		1
87		VKH3001-071	Collar	Reverse Bracket	1
88		FE-ZMS409	Shield Core		2
90		VKL5464-001	Guide Bracket		1
91		WBS2600N	Washer		1
93		Q03091-150	″		1
94		WAS2600N	″	for Mecha Plate	1
96		VKL3447-001	Slide Base		1
100		SSSK2035N	Screw	for Reverse Bracke	2
101		SDSF2606Z	″	for Brake Bar × 1 Safety Lever × 1 Switch Lever × 1 Spring Plate × 2 Reel Base Unit × 5 Wire Clamp × 1	11
102		SDSP2003Z	″	Main Gear	1
103		SDSP2003Z	″	Spring Plate	1
106		SPSP2003Z	″	Slide Base	2
107		SPSP2605Z	″	Leaf Switch × 5, P.W.B. × 1	6
108		SDSP2612Z	″	Reel Base Unit	2
109		SPSP2006Z	″	Guide Lever	2
110		SDSP2615Z	″	DD. Motor Ass'y	4
112		SSSP2603Z	″	Collar	1
114		SSSP2006Z	″	Lever Ass'y	1
115		SPSP2618R	″	Mecha Plate	1
117		VKL5464-002	Guide Bracket		1
118		Q03093-522	Washer	P.W. Board	2
119		NTB2000	Nut		2
120		SDSF2606Z	Screw	Reflector	1
122		SPSK2028Z	″	for Guide Bracket	6
123		VKZ4004-004	Special Washer		1

DD Motor Schematic Diagram of DD-V9 A/B/C/E/J/U

<MC956B>



C1 0.047
R18 3.3k
R3 33k
VR1 47k
R12 56k
R17 3.3k
D2
R14 82k
R13 33k
R11 47K
C6 0.0027
C5 0.022
C4 0.01
R19 10K
IC 2
FG
C8 2.2µ/50V
R16 470
R15 470k
C7 0.00047
C9 10µ/35V or 50V
D1
R10 330 1/2W
R8 2.7k
C3 33µ/25V
C2 0.47µ/50V
D3
D4
D5
Q9
Q10
R2 180
R1 2.2 1W
R7 560
R4 100
Q5
Q6
Q8
Q7
H G
R6 270
R5 560
C11 10µ/25V BP
C12 10µ/25V BP
IC 1
1
2
3
4
C10 10µ/35V or 50V
Red
Black

Note :

1. Unless otherwise specified. All resistor are 1/6 W ±5% carbon resistor.
2. Unless otherwise specified. All capacitor are polyester film capacitor.
3. ∗ : OMF resistor.
4. ☆ : Polypropylene capacitor.

IC1	STA431A
IC2	VC1031
Q5,6	2SA1015 Yor GR
Q7,8	2SC1815 Yor GR
Q9	2SA1015GR
Q10	2SC1815GR
D1,2	1S953B
D3,4,5	1SS53

Fig. 42

DD Motor P.W. Board Parts List

(Reference to the schematic diagram carbon and capacitor value.)

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
R2~9, 11~13 15~18	QRD167J-	Carbon Resistor		15
R10	QRD123J-	″		1
R1	QRX019J-	OMF Resistor		1
R14	QRV146F-	″		1
VR1	RVAH310	V. Resistor		1
C1,4,6 7	QFN41HK-	Mylar Capacitor		4
C5	APS223K100	Ceramic Capacitor	or APS223J100	1
C2,8	QET41HM-	Electrolytic Capcitor		2
C9,10	QET41HM-	″	or QET41VM	2
C3	QET41EM-	″		1
C11,12	QEN41EM-	″		2
P1,2	1S953B	Diode		2
Q5,6	2SA1015Y	Transistor	or SA1015BR	2
Q9	2SA1015GR	″		1
Q7,8	2SC1815Y	″	or 2SC1815GR	2
Q10	2SC1815GR	″		1
IC1	STA431A	IC		1
IC2	VC1031H	″		1
	VKB3001-017	Belt		1

Packing

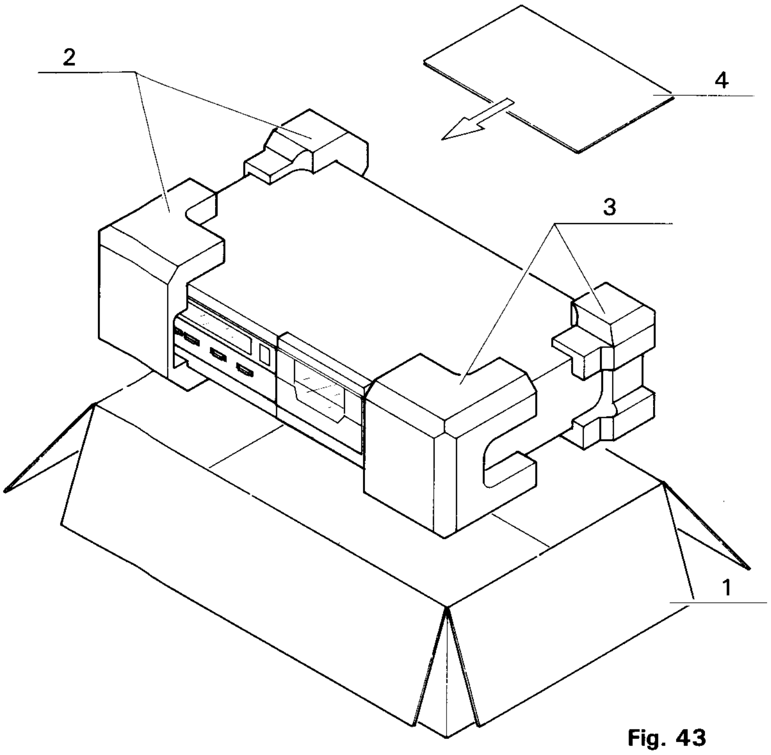


Fig. 43

Positions of controls and switch knobs at remarked packing renewed

Power switch : OFF
Timer switch : OFF
N.R. system switch : OFF
DOLBY B/C switch : B
Monitor switch : TAPE
Input volume : MIN
Output volume : MAX
Mechanism operation buttons : OFF
Reverse mode : REVERSE

Packing Material Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VPD2111-J02	Carton	DD-V9B	1
	〃 -J03	〃	DD-V9A	1
	〃 -J04	〃	DD-V9C	1
	〃 -J05	〃	DD-V9E	1
	〃 -J06	〃	DD-V9J	1
	〃 -J07	〃	DD-V9U	1
2~3	VPK4165-001	Cushion Ass'y		1
2	VPH3125-001	Cushion (L)		1
3	VPH3126-001	〃 (R)		1
4	AP4056B-077	Envelope	DD-V9A/C/E/J/U for Instruction Book	1
	VPE3004-001	〃	DD-V9B for Instruction Book	1
	Q04141H	Wire Clamp		1
	TKS000501-08	Sheet	for Unit	1
	QPGA060-06005	Poly Bag	DD-V9A/C/E/J/U for Unit	1
	VPE3002-011	〃	DD-V9B for Unit	1
	AP4056A-36	Envelope	for Pin Cord	1

Accessories

Parts No.	Parts Name	Remarks	Q'ty
VMP0002-00B	Pin Cord		2
VNN0116-901	Instruction Book	DD-V9A/C/J/U	1
″ -301	″	DD-V9B/E	1
BT20029C	Warranty Card	DD-V9A	1
BT20025F	″	DD-V9C	1
BT20047A	″	DD-V9J/U	1
VND4013-001	Warning Label	DD-V9A/B/E	1
QZL1002-003	″	DD-V9B	1
BT20013C	Guarantee Certificate	DD-V9B	1
TJL000420-01	Seal	DD-V9B	1
	BEAB Label	DD-V9B	1
VNC5004-001	Mark Sticker	DD-V9B/E	1
T44362-001	CSA Marker	DD-V9C	1
TLT000505-01	UL/CSA Caution Label	DD-V9C/J	1
VND4037-001	F Mark Label	DD-V9E	1
BT20046B	Special Reply Card	DD-V9J	1
BT20046	″	DD-V9U	1
E66416-003	Envelope	DD-V9J for Warranty Card	1
BT20044D	Safety Instruction	DD-V9J	1
E7795-1	EP Mark	DD-V9U	1
VO4062-001	Siemens Plug	DD-V9U	1
T46328-001	Caution Label	DD-V9U	1
VNC5311-101	Caution Card	DD-V9U	1
VPZ4001-001	Serial Ticket	DD-V9B/A/E/J	1
T43758-003	″	DD-V9C	1

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